SEP 28 1931

Pharmacists May Have without Cost to Them a Map for Window Display during Pharmacy Week Which Will Acquaint the Public with the Educational Institutions of Pharmacy—See Your Wholesale Druggist.

Vol. XX, No. 9 SEPTEMBER, 1931

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

TRADE MARK

CONTENTS

Frontispiece and Sketch—John G. Searle 870
Editorial:
- Uniform State Narcotic Laws 872
- Pharmacy in the Hospitals 873
- Pharmacy Week as a Coöperative Opportunity for Acquainting the Public with Pharmacy 874
- Pharmacy in the Japanese Army 875
- Heidelberg Institute for Medical Research 875

Scientific Section:
- The Biological Assay of the Water-Soluble Antineuritic and Antipellagric Vitamins—Graber and Cowles 876
- The Determination of Halogens in Pharmacopœial Organic Compounds—Oakdale and Powers 881
- A Comparative Study of Three Assay Procedures for Camphorated Tincture of Opium, U. S. P.—Bliss, Jr., Davy, Blome, Chamberlin, Grantham, Morrison 885
- Incompatibilities of Some Important Newer Chemicals—Lanwermeyer 891

Bibliography of Pharmaceutical Research—DuMez 896
Average Prices of Prescriptions in Buffalo, N. Y., and Columbus, Ohio, with an Estimate of Total Volume of Prescription Business in the United States—Monell and Brown 901
National Drug Store Merchandising Survey—Delahanty 904
Department of Business Management:
- Advertising and Selling Problems of Drug Stores—Olsen 909

Pharmaceutical Engineering—Peterson and Ruth 912
A Librarian's Story—Lloyd and Lloyd 918
Philo Carpenter—Pioneer Pharmacist of Chicago—Day 922
Introduction of Chemical Pharmacology and Therapeutics—Whitebread 925
Professional Pharmacy. III—Jordan 930
Report on Maryland Prescription Count—Swain 938
The Department of the National Association of Boards of Pharmacy:
- Abstracts of Minutes Twenty-Eighth Annual Convention National Association Boards of Pharmacy, Miami, Fla., July 27–28, 1931 942

The Department of the American Association of Colleges of Pharmacy:
- The American Association of Colleges of Pharmacy—Summary of the Proceedings of the 1931 Meeting 945

The Seventy-Ninth Annual Meeting of the American Pharmaceutical Association, Miami, Fla., July 27 to Aug. 1, 1931 953
House of Delegates, American Pharmaceutical Association 972
Pharmaceutical Service in the Medical Department of the Army—Tuttle 996
Remarks of Colonel A. D. Tuttle of the U. S. Army before the House of Delegates 997
Association Business 999
Personal and News Items 1003
Obituary 1004
Advertising—Cover Pages 2, 3 and 4 and pp. I–XXVIII.

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THE 80th ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION WILL BE HELD IN TORONTO, CANADA, IN 1932.

The 1932 Meetings of the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, Conference of Pharmaceutical Association Secretaries, of the Pharmaceutical Law Enforcement Officials and the Plant Science Seminar will also be held in Toronto.

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TORONTO—THE NEXT A. PH. A. MEETING PLACE.

THE name, Toronto, is derived from an Iroquois word meaning "Place of Meeting" and those nomads of early days little knew what an appropriate name they had chosen, as Toronto has become one of the greatest convention cities of the world.

It is situated on Lake Ontario and has a population of 800,000. It is the focal point of the world's two largest railway systems—the Canadian National Railway and the Canadian Pacific Railway. It is easily and quickly reached, as it is only an over-night rail journey from all centers of population of Eastern and Central United States.

Royal York Hotel, Toronto.

The convention headquarters hotel, the Royal York, shown herewith, contains 1200 rooms and is modernly equipped in every particular. There are a number of other large hotels in Toronto providing ample accommodation for visitors.

It is only 80 miles distance by rail or bus to the far-famed Niagara Falls, and the Falls can also be reached by a delightful boat trip across Lake Ontario.

In the summertime Toronto is just one huge summer resort with its miles and miles of beautiful beaches.

In this city is located the University of Toronto, which, with its affiliated colleges, is the largest on the continent, with an attendance of over 10,000 students. Here also we have the Ontario College of Pharmacy, which is the oldest and most outstanding institution of its kind in Canada.

The Canadian National Exhibition, which those who attend the convention will have the privilege of seeing, is said to be the largest annual exhibition in the world. The Exhibition Park stands in a class by itself in municipal ownership. It comprises 386 acres containing over 100 magnificent buildings valued at $15,000,000. The annual attendance at the Fair for the two weeks it is open, averages 2,000,000. As the opening day in 1932 is August 26th, it will give visitors to the Convention ample opportunity to see this world-famed Exhibition.—R. J. B. S.

Photo by Loubell Studios

JOHN G. SEARLE.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. XX SEPTEMBER, 1931 No. 9

THE PRESIDENT OF THE AMERICAN PHARMACEUTICAL MANUFACTURERS' ASSOCIATION.

The Searle coat of arms can be traced back in England to the reign of Richard III. John G. Searle, with whom this sketch is concerned, began his career March 18, 1901, at Sabula, Iowa, the son of Dr. C. Howard and Marion Searle.

After graduation from New Trier High School, Winnetka, Ill., Mr. Searle entered the navy, serving for two years during the War as a chief yeoman. Following his discharge from the service he entered the University of Michigan, graduating with a B.S. in Pharmacy in 1923, and also membership in the "M" Club for football and swimming. That year he entered the services of G. D. Searle & Co., manufacturing pharmacists, founded by his grandfather, Gideon D. Searle, first serving successively as purchasing agent and office manager; he became treasurer and general manager and, later, vice-president and general manager.

In 1926 Mr. Searle became secretary of the American Pharmaceutical Manufacturers' Association, and in May 1931, was elevated to the presidency of the Association in its session at French Lick, Indiana. He is the youngest man to be honored with these responsibilities since the organization was founded and has been prominent in a number of committees of this Association and has taken an active interest in the affairs of the American Drug Manufacturers' Association. Among other activities he served as a member of the Executive Committee of the St. Louis Retail Drug Survey, and he is also a member of the AMERICAN PHARMACEUTICAL ASSOCIATION.

The Episcopal Church counts him as a communicant. He is a member of the Alpha Delta Phi fraternity. His social affiliations include cards in the Chicago Athletic Association, Glenview and Barrington Hills Country Clubs. As a sportsman he is an ardent and efficient golfer and a capable horseman.

John G. Searle and Frances Crow were married April 25, 1925, in Winnetka, Ill. They have two sons, Daniel Crow, aged five, and William Lewis, aged three; the last member of the Searle family, Suzanne, was born August 3, 1931, and is the first girl to be born into the family in four generations.

EDITORIAL

E. G. EBERLE, EDITOR 10 West Chase Street, BALTIMORE, MD.

UNIFORM STATE NARCOTIC LAWS.

THE Forty-first annual Conference of Commissioners on Uniform State Laws was held at the Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., on September 8th–14th preceding the annual meeting of the American Bar Association. The Commissioners are officially appointed to represent each state, territory and the District of Columbia and their function is to further uniformity in legislation where uniformity is both desirable and practical.

The Committee on Uniform Narcotic Drug Act is one of the committees of the Uniform Social Welfare Acts Section of the Conference; the committee has had this legislation under consideration for several years and is now working on the fourth tentative draft of a model law; the Committee has received advice and suggestions from the American Medical Association and from the several national pharmaceutical associations represented in the National Drug Trade Conference.

On Wednesday, September 9th, Carson P. Frailey, secretary of the American Drug Manufacturers Association, and president of the National Drug Trade Conference; E. F. Kelly, secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, and secretary of the Conference; and General Counsel E. C. Brokmeyer, of the National Association Retail Druggists, conferred with Judge John P. Deering, *chairman*, and other members of the Committee. They again submitted a brief prepared by a committee of the Drug Trade Conference and also certain additional comments on the Fourth Tentative Draft which has been prepared since the brief was originally submitted.

The pharmaceutical representatives emphasized that such legislation as is required should be supplemental to and an extension of the Harrison Act, which has been found effective in its results, in order to avoid conflicts between Federal and State enforcement and unnecessary confusion, and that additional restrictions and duties should not be imposed on the legal manufacturers and distributors of narcotics who are complying with the provisions of the National Act very satisfactorily according to the reports of the enforcement officials. It is evident that the illegal traffic in narcotic drugs is principally through smugglers and peddlers and that such additional legislation as is necessary should be directed against them.

During the conference the Fourth Tentative Draft was discussed in some detail as far as it affected pharmacy and suggestions were made for amending it in a number of particulars, especially those relating to the keeping of records and accounts.

Harry J. Anslinger, Commissioner of Narcotics, and A. L. Tennyson, counsel to the Commissioner, were present and presented the views and wishes of the Bureau of Narcotics with reference to narcotic legislation by the several states. It is not believed that the Committee will submit a final draft of the proposed Uniform Narcotic Drug Act to the Commissioners at this conference, but that the question will be given further consideration.

It will be recalled that narcotic legislation has been under recent consideration by the legislatures of several states and that rather drastic laws were enacted by

Arizona and Texas. It is hoped that the Commissioners will submit a model law as soon as possible, especially, if it will have the approval of the national Bureau of Narcotics, which is certainly in the best position to advise what is required in state legislation to strengthen the effective enforcement of the Harrison Act and to deal with such narcotic traffic and abuse as may be somewhat local in character.—E. F. K.

PHARMACY IN THE HOSPITALS.

THE American Hospital Association will hold its annual meeting in Toronto, beginning September 28th. A very complete exhibit has been arranged for, the program is comprehensive, and the standing of the contributors assures very profitable and interesting discussions; it is striking, however, that pharmacy is not mentioned, especially in the titles of papers nor in the subjects for discussion. There are a number of addresses, papers and discussions in which pharmacy may receive consideration—"Public Health Relations," "Hospital Organization and Management," "What Place Has Research in the Hospital?" "The Relation of the Cook County Hospital Plan of Administration to Teaching," "The Modern Hospital," "Big Problems for Small Hospital," "What the Public Thinks of Present Day Hospital Administration," etc.

Doubtless, the hospitals are sources of information on every phase of pharmaceutical research and the reports thereon made at the annual meeting as well as of the work in hospitals should be made of record accordingly. The list of papers read before the AMERICAN PHARMACEUTICAL ASSOCIATION indicate a place of importance in hospital pharmacy. Without any intent to criticize the carefully-prepared and comprehensive program referred to, or to make comparisons of relative values, examples are given to impress the importance and possibilities of pharmaceutical service: "Deterioration of Certain Medicaments under the Influence of Light;" "Incompatibilities of Some Important Newer Remedies;" Studies of U. S. P. and N. F. Assays and Bio-Assays—Ergot, Digitalis, Spirit of Nitrous Ether, Strychnine; stabilization, proper care in making solutions for injections, antiseptic valuations; the effect of storage in ampuls and other glass containers. The studies presented at the Miami meeting include all of these and more, and encouragement by hospital managements would, we believe, prove of great value to the physicians, surgeons and the public. There is no reason why pharmacy should not have a larger place in hospitals, not only from the indicated standpoints but from the reasoning which applies to requirements for the practice of pharmacy. Coöperation in the hospital service would answer many questions and solve many problems that are met within the practice of medicine and pharmacy and public health matters.

"The Modern Hospital Year Book," under *Suggestions for Manning the Pharmacy*, touches in a general way the comments made in the foregoing and is quoted in the following:

"Because of the vital importance of the pharmacy in emergencies, it should be kept constantly open. The function of the pharmacy as an adjunctive aid to the physician and to the surgeon makes it one of the most essential departments of the hospital. It takes its place with all other staff services in the training of

pupil nurses. Because its interrelationships with all other departments are so intimate, the pharmacy (even though it be supervised by a competent and experienced pharmacist) deserves a considerable share of the time and attention of every hospital superintendent."

A criticism may be in order concerning the suggestion enclosed in parenthesis, namely, there should be no exception relative to the supervision of the hospital pharmacy. The records concerning pharmacy speak of its contributions to medicine; the educational advancement, and the developments of recent years indicate greater importance and opportunities for pharmacy; in our opinion, therefore, wherever pharmacy renders service it should have due recognition.

Men of different professions may work together, and should, but each class is best qualified to render service in the department from which the individuals have been trained by experience and education; with coördinated coöperation each class performs the best service for the public and therein is the duty.

PHARMACY WEEK AS A COÖPERATIVE OPPORTUNITY FOR ACQUAINTING THE PUBLIC WITH PHARMACY.

IN order to be helpful coöperation must come from within the ranks; each division of the drug-trade activities has its peculiar problems, but there are certain efforts in which all the divisions can have a part and be mutually helpful. Indecision and working at cross purposes develops weakness which other groups take advantage of for promoting their own interests.

The public has no clear appreciation of the fundamentally important rôle of pharmacy in the activities included in the drug-trade activities and, as a consequence, is not deeply concerned about pharmacy; this points out one of our duties, namely, to acquaint the public with pharmacy. The book, "Fighting Disease with Drugs," recently published, will acquaint druggists with pharmacy's part in the development of agents which are useful in preventing and treating diseases.

J. C. Merrian writing in *Science* said—"Research should lead to construction and is not complete unless the results are available for general use," so it is a duty incumbent upon pharmacists to acquaint the public with facts bearing on pharmacy's part in eliminating disease, superstition and ignorance, improving and enlarging the materia medica. Valuable products for alleviation of pain, suffering and disease have been misused, the most important of them, long before scientific application was made of them. These habit-forming drugs have shown the professional spirit of pharmacists, for they have been among the first to recognize the misuse of these narcotics and pointed out the need for regulating the dispensing of them. Restrictions were placed upon their sale long before the Harrison law was passed and state legislation enacted for that purpose. The PROCEEDINGS of the AMERICAN PHARMACEUTICAL ASSOCIATION of 1903 and 1904 contain reports which led to the passage of the Act referred to, but all too frequently these facts are overlooked or purposely ignored.

Pharmacy week offers the opportunity to pharmacists to acquaint the public with what pharmacists have done, their efforts in promoting pharmaceutical education and safeguarding the public, and with the difficulties that hinder these promotions.

Dr. Walter F. Taylor, writing in the *Scientific Monthly* said: (1) "The intellectual worker should realize that he, himself, as well as the public has a definite responsibility for the condition under which he works. . . ." (2) "One essential to effective coöperation among scientific men is the definite abandonment of ultra-individualism, and its replacement by group loyalty, sympathy and mutual helpfulness."—"The ethics of coöperation are higher and considerably more difficult of successful attainment than the ethics of individualism, but they promise far more for the future."

Pharmacy week should induce druggists to think deeply of their obligations to pharmacy and also of the importance of its service. It cannot be accomplished by passive thought, by effervescent enthusiasm, but by realization of the duties and valuation of its service supported by coöperation in solving problems which are accepted to be of importance to all concerned, including the public and, thereafter, insistence on due recognition backed by a rational understanding and the creation of an appreciation which will offer the greatest opportunities for the development of pharmacy.

PHARMACY IN THE JAPANESE ARMY.*

RECENT changes made in connection with pharmacy in the Japanese Army give an idea of some of these activities. Pharmacist-General Matajiro Watanabe, who will reach the age of retirement from active service next year, has been placed on the retired list. Four other pharmacist-officers were similarly placed necessitating a shifting among a relative number of younger pharmacist-officers.

Pharmacist-Major-General Bunta Taguchi, who succeeds General Watanabe as head of the Army Health Material Arsenal, is a graduate of the Department of Pharmacy in the Imperial University of Tokyo and at present is a member of the faculty of the Military Medical School.

General Watanabe graduated from the Department of Pharmacy in the Imperial University of Tokyo in 1900 and has served the Imperial Army for the past thirty years, devoting his efforts largely in improving the health materials of the Army; in 1929, he was promoted to the position of Pharmacist-Lieutenant General. He is a member of the Japanese Pharmacopœial Commission and is one of the *Councillors* of the Japanese Pharmaceutical Society. Pharmacist-Rear-Admiral Isano also is on the retired list; he, too, is one of the *Councillors* of the Japanese Pharmaceutical Society. Reference to these changes, as before stated, is commented on, because of its bearing on the pharmaceutical status in the Japanese Service.

HEIDELBERG INSTITUTE FOR MEDICAL RESEARCH.

THE Institute for Medical Research at Heidelberg has recently been dedicated; it comprises, in fact, four institutes: The Pathologic Institute, under direction of Professor von Krehl; the Institute for Physics, under direction of Prof. Dr. Hausser; the Physiologic Institute under Prof. Dr. Meyerhof, and the Institute of Chemistry under Prof. Dr. Kuhn. The central idea of the institute is the knowledge that the development of modern medicine is closely dependent on the progress and development of the sciences and research in fields that lie between these and medicine.

* A report in the *Japanese Retail Druggist* is drawn upon for this comment.

SCIENTIFIC SECTION

THE BIOLOGICAL ASSAY OF THE WATER-SOLUBLE ANTINEURITIC AND ANTIPELLAGRIC VITAMINS.*

BY HOWARD T. GRABER AND RUSSELL A. COWLES.

(It is our purpose in this paper to present a concise review of the methods used for the assay of the antineuritic and antipellagric vitamins, with the object in view of establishing some standard method which will combine simplicity and accuracy, and be acceptable to the various commercial laboratories engaged in this work.)

It is only within the last half decade (1) that the existence of two water-soluble factors in the vitamin B complex has been established. Since then the symptoms of the respective vitamin deficiencies have been extensively studied. Previously in testing for the vitamin B complex, a sample was evaluated in terms of its ability to promote growth in a rat on a vitamin B deficient diet. The renewed growth was due to a combination of both factors and no distinction was made between the antineuritic vitamin and the antipellagric vitamin.

Originally, of course, vitamin B was known only as the antineuritic vitamin and was evaluated in terms of its ability to cure polyneuritis in pigeons. The pigeon as a test object has many disadvantages, and since at the present time it is seldom used in vitamin standardization, we shall disregard this method and consider only those methods which make use of the white rat.

As regards the nomenclature of the vitamins, the tendency of American writers has been to employ the designation "Vitamin B" for the antineuritic factor and "Vitamin G" for the antipellagric factor, while the British workers use the designation "B_1" and "B_2" for the same two factors, respectively. However, this differentiation is by no means general and usually both designations are used together, one in parenthesis succeeding the other. Therapeutically, the vitamin B complex, as such, is of great value and it is our opinion that the term "Vitamin B" should be reserved for the complex as was the case originally, and the terms "B_1" and "B_2" used for the antineuritic and antipellagric vitamins, respectively. This idea seems still more reasonable in view of the fact that Reader (2, 3, 4) has shown the existence of a third factor (B_4) in the vitamin B complex. However, in this paper, we shall use the terms antineuritic vitamin and antipellagric vitamin and leave the specific designations to the future.

SYMPTOMS OF DEFICIENCY OF THE ANTINEURITIC VITAMIN.

When the mature white rat, about $3^1/_2$ to 4 weeks old and weighing about 40 to 50 Gm., is placed on a diet devoid of the antineuritic factor, no appreciable change takes place for about 10 days, except for a noticeable loss in appetite. Anywhere from the 18th to the 25th day the characteristic syndrome of antineuritic vitamin deficiency appears rather rapidly and is in complete evidence in practically every case before the 28th day.

In addition to the characteristic loss of appetite, we have noticed in the animal a condition of extreme irritability when touched or disturbed, which is

* Scientific Session, A. PH. A., Miami meeting, 1931. No discussion.

considerably in evidence even as early as the 14th day. The animal assumes a hunched attitude and becomes lethargic, displaying no interest in its surroundings. The fur loses its gloss and becomes ragged and ruffled. In the final stages of the decline the animal becomes very pale and extremely emaciated with more or less lack of neuromuscular control. The animal seldom survives more than 4 weeks, death usually taking place from inanition.

SYMPTOMS OF DEFICIENCY OF THE ANTIPELLAGRIC VITAMIN.

In demonstrating deficiency of the antipellagric vitamin, immature white rats about 4 or 5 weeks old and weighing about 50 to 55 Gm. are used. When placed on a diet devoid of the antipellagric vitamin, no change takes place for 3 or 4 weeks, until a slight raggedness of the hair appears, with some irritation and reddening of the tip of the nose. During this period, there is no definite change in weight, either gain or loss, and the appetite is fair with the animal displaying active interest in its surroundings. About the 5th week, there is considerable blood around the margins of the nostrils, with a characteristic loss of hair from the eyelids. During the 5th and 6th weeks the various skin symptoms rapidly develop, with the loss of hair from the head and abdomen. The front paws become stained with blood from the nostrils; also there is in evidence considerable inflammation of the tips of the digits of the paws. The urine is very frequently bloody. It has been reported that the animal undergoes a change in temper, becoming irritable and apt to bite. However, in this laboratory, we have observed just the opposite, the animal being very tame and docile. In fact, this condition seems very characteristic in differentiating between the antineuritic and antipellagric vitamin deficiencies. In every case the extreme irritability is almost a certain symptom in deficiency of the antineuritic vitamin, while it seldom, if ever, appears in deficiency of the antipellagric vitamin. The animal will exist in this condition of antipellagric vitamin deficiency for some time before death intervenes—at least three to four months.

In standardizing a method for the assay of the separate factors in the vitamin B complex, there should be no trouble in differentiating between the syndromes of antineuritic vitamin deficiency and antipellagric vitamin deficiency.

THE QUANTITATIVE DETERMINATION OF ANTINEURITIC ACTIVITY.

The method of assay is essentially the same as that of all the vitamin assays. The immature rat is placed on a diet adequate in all respects except for the antineuritic vitamin. When the symptoms of the vitamin deficiency are pronounced (about 3 weeks) the material to be tested is fed along with the basal diet and the minimum amount which will give a definite increase in weight over a definite period of time can be designated as a unit. Several methods for assay of the antineuritic vitamin content have been proposed, particularly those of Chick and Roscoe (5), Sherman and Spohn (6) and the injection methods used by the United States Public Health Service (7, 8). The only difference in these various methods, aside from the mode of administration of the material to be tested, is in the preparation of the proper basal diet, and the normal growth rate to be accepted as the basis of the unit. The basal diet consists of casein, starch, butter fat, salt mixture and cod liver oil and is supplemented with an adequate supply of the anitpellagric factor. In both the Sherman method and the Chick and Roscoe method, autoclaved yeast

was originally used as the source of the antipellagric factor, but recently Chick and Roscoe (9) have discovered that egg white is an excellent source of the antipellagric factor, practically free from the antineuritic factor. Their objection to autoclaved yeast was its tendency to cause diarrhea, but in this laboratory we have used both autoclaved yeast and egg white in our diets without any noticeable difference in results.

In the choice of rats, there is close agreement in the use of animals about $3^1/_2$ to 4 weeks old, the feeding experiments being conducted in parallel between groups matched as to sex and weight after the depletion period. As regards the length of the test period, Chick and Roscoe advocate a period of 8 weeks, while Sherman recommends 4 weeks, due to the fact that on the basal diet other vitamins, not yet well defined, may begin to be interfering factors. Sherman suggests that the unit be based on a growth rate of 3 Gm. per week while Chick and Roscoe advocate a unit growth rate of 11 to 14 Gm. per week. Both units are purely arbitrary, but the 3-Gm. per week unit seems to follow out the idea used in determining the normal growth rate for the vitamin A assay.

The actual housing and care of the animals are carried out the same as in any vitamin assay. Individual metal cages are provided with raised screen floors to prevent coprophagy, the basal diet and distilled water being given *ad libitum*.

BASAL DIET.

Casein	18%
Corn-starch	53%
Salt mixture	4%
Butter fat	8%
Cod liver oil	2%
Autoclaved yeast	15%
	100%

Casein.—We have found that if a good grade of casein is used, two alcoholic extractions are sufficient to remove all traces of the antineuritic vitamin. In the first extraction, 5 pounds of casein are extracted 24 hours at room temperature with 3 gallons of 60% alcohol. In the second extraction, 3 gallons of 60% alcohol are used at the boiling point for about 2 to 3 hours. The casein is sucked dry on a Buchner funnel and washed with 60% alcohol after each extraction.

Corn-starch.—Any good grade is satisfactory.

Salt Mixture.—McCollum Salt Mixture No. 185.

Butter Fat.—All excess water must be removed, and the fat carefully strained through fine cheese cloth.

Cod Liver Oil.—Sometimes it is desirable to give the cod liver oil along with the sample to be tested. This improves the flavor and facilitates the feeding to the rat.

Autoclaved Yeast.—In the preparation of the autoclaved yeast, a dried yeast should be selected which is active in 150 mg. dose in causing normal growth in the rat which has been on a basal diet completely deprived of the vitamin B complex. We have autoclaved the yeast in the form of a thin powder with satisfactory results, but for routine work it is advisable to make a paste with 0.1 *N* sodium hydroxide and autoclave at 15-pounds pressure for 5 or 6 hours. It may be necessary to neutralize slightly after autoclaving. The product is then dried and powdered.

THE QUANTITATIVE DETERMINATION OF ANTIPELLAGRIC ACTIVITY.

In the assay for antipellagric activity, the method is essentially the same as the previous method described for testing antineuritic vitamin activity, except that a potent source of the antineuritic vitamin is incorporated into the diet in place of autoclaved yeast. A slightly older animal, about 4 to 5 weeks of age, is usually used for this test. The housing and care of the animal during the depletion period are exactly the same as in the assay for antineuritic activity—except that a longer depletion period is necessary (about $4^1/_2$ to 5 weeks). The test period as recommended by Chick and Roscoe is 8 weeks, while Sherman suggests a 4-week period from the time the minimum body weight is obtained. Chick and Roscoe suggest 10–14 Gm. per week as normal growth rate, while Sherman suggests 2–5 Gm. per week as being the limits at which the growth rate is proportional to the allowance of the antipellagric vitamin.

As a source of antineuritic vitamin free from the antipellagric factor, several materials have been tried. Goldberger and his co-workers (1) used an 85% alcoholic extract of corn meal; Sherman and Sandels (10) used a 75% alcoholic extract of whole wheat; Chick and Roscoe (11) used Peter's antineuritic concentrate; and Evans and Burr (12) used tikitiki, a dilute alcoholic extract of rice polishings. In this laboratory we have found that an alcoholic extract of whole wheat properly dried on corn-starch is quite satisfactory as a source of antineuritic vitamin and is effective in developing symptoms of antipellagric vitamin deficiency.

During the depletion period of about 5 weeks, and continuing through the actual test period, the animals are housed in individual cages under exactly the same conditions as described in the method for antineuritic vitamin assay. Some investigators prefer to keep their animals in one large cage during the depletion period, but it has been our experience that more consistent results can be obtained by keeping the rat in a separate cage during the depletion period, as well as during the actual test period.

BASAL DIET.

The basal diet and specifications are exactly the same as the basal diet for the assay of the antineuritic vitamin except that an alcoholic extract of whole wheat is substituted for the autoclaved yeast. It is also advisable to use a slightly acid and stronger alcoholic solution in the casein purification.

Casein	18%
Corn-starch	68% (containing extract of whole wheat)
Salt mixture	4%
Butter fat	8%
Cod liver oil	2%
	100%

Casein.—Five pounds of casein are extracted with 3 gallons 75% alcohol, containing 10 cc. of glacial acetic acid, at room temperature over night. A second extraction at the boiling point is carried out for 2 hours. The casein is washed and sucked dry in a Buchner funnel as in the previous method.

Antineuritic Concentrate.—Five pounds freshly ground whole wheat are given three extractions with one-gallon portions of 75% alcohol for 2 hours at room

temperature, with frequent shaking. The combined extracts are concentrated *in vacuo* and the extract dried *in vacuo* on corn-starch. The equivalent of 5 pounds whole wheat is added to each 10 pounds of finished diet.

The specifications for the corn-starch, butter fat and cod liver oil are the same as given previously.

SUMMARY.

The following is a brief summary of the methods which have given successful results in this laboratory.

ANTINEURITIC VITAMIN ASSAY.

Animals.—Immature white rats $3^1/_2$ to 4 weeks old and weighing about 40 to 50 Gm.

Depletion Period.—Twenty-four animals are placed on the special basal diet and after the first week are weighed every other day and the weight curve plotted. The condition and weight curve of each animal is separately studied. When the animals demonstrate a definite decline in the weight curve and show the primary symptoms of the antineuritic vitamin deficiency—loss of appetite, ruffled hair and hunched attitude, the series is divided into groups of four each. One group is kept as control and allowed to develop the full symptoms of the vitamin deficiency, finally dying. Each of the other groups of four are used for separate doses of the material to be tested.

Test Period.—The material to be tested is usually weighed out into the feeding cup, slightly moistened with water or cod liver oil, and given to the rat before the regular food. In practically every case, the animal consumes the test sample, while under observation. After a test period of 4 weeks, the average growth rate of each group is computed, and the unit based on an increase in weight of three Gm. per week.

ANTIPELLAGRIC VITAMIN ASSAY.

Animals.—Immature white rats 4 to 5 weeks old and weighing about 50 to 55 Gm.

Depletion Period.—Twenty-four animals are placed on the special basal diet and after the first two weeks are weighed every other day and the weight curve plotted. When the weight curve shows a definite decline and the animal demonstrates the symptoms of antipellagric vitamin deficiency, ragged hair, reddening of the tip of the nose, and loss of hair around the eyelids and nostrils, the series is divided into groups of four each. One group is kept as control and each of the remaining groups receive a separate dose of the material under test.

Test Period.—The manner of feeding is the same as described. After a test period of 4 weeks, the average growth rate is computed and the unit based on an increase in weight of 3 Gm. per week. (In this laboratory, we prefer a unit based on 3 Gm. rather than 11–14 Gm. per week, since in conjunction with the unit of antineuritic activity, it gives a more correct comparison of the relative antineuritic and antipellagric activity of the product under test.)

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RESEARCH LABORATORIES,
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THE DETERMINATION OF HALOGENS IN PHARMACOPŒIAL ORGANIC COMPOUNDS.

BY U. O. OAKDALE* AND J. L. POWERS.

The United States Pharmacopœia, X, recognizes a large number of organic compounds containing halogens. For some of these a purity rubric based on halogen content is required; in the case of the others a similar requirement might be desirable.

Until comparatively recently the only accurate methods available for the determination of halogens were those of Carius[1] and the Lemp and Broderson[2] modification of the Parr[3] and Pringsheim[4] methods.

The Carius method is not desirable for general use because of several disadvantages which it presents. Among these are the use of a sealed tube, a bomb furnace in which to heat it, and the chance of fragments of glass falling into the tube upon opening it. This procedure requires an excessive amount of time, and it is not easy to determine when the material is completely oxidized.

When the Lemp and Broderson method is used there is always the possibility of incomplete fusion of the material, the danger of too rapid oxidation when the sample is mixed with sodium peroxide, and the difficulty in obtaining accurate results with volatile compounds.

With the exceptions of chloramine and dichloramine, the pharmacopœial assay methods for the determination of halogens are restricted to compounds containing iodine. In the determination of iodine in calcium iodobehenate, thymol iodide and thyroxin, the principle involved depends upon carbonizing the material which has previously been mixed with potassium carbonate, extracting the residue with water, and oxidizing the iodide thus formed to iodate by means of potassium permanganate. After filtering and collecting an aliquot portion of the filtrate, potassium iodide is added, the solution is acidified, and the iodine liberated is determined by titrating with sodium thiosulphate solution using starch as indicator.

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* Parke, Davis and Company Fellow, 1930–1931.

[1] Carius, *Ann.*, 136 (1865), 129.

[2] Lemp and Broderson, *J. Am. Chem. Soc.*, 39 (1917), 2069.

[3] Parr, *Ibid.*, 30 (1908), 764.

[4] Pringsheim, *Ibid.*, 41 (1904), 386.

This procedure may give low results due to loss of iodine from heating too rapidly and occlusion of potassium iodate by the manganese dioxide formed from the potassium permanganate. In the U. S. P. assay method for the determination of iodine in thyroid, a fusion mixture of potassium carbonate, sodium carbonate and potassium nitrate is used. The oxidation is carried out in acid solution using sodium hypochlorite solution. This method will be considered in the discussion of results.

Recently a very accurate and rapid general method for the determination of halogens in organic compounds was developed by Thompson and Oakdale[1] in this Laboratory. In this method the compound containing the halogen to be determined is oxidized with fuming sulphuric acid alone or in conjunction with potassium

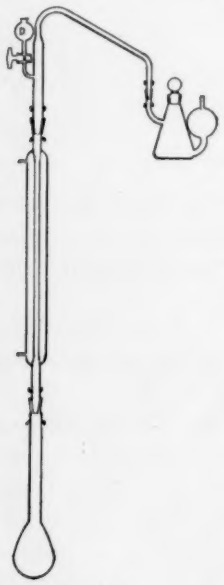

Fig. 1.

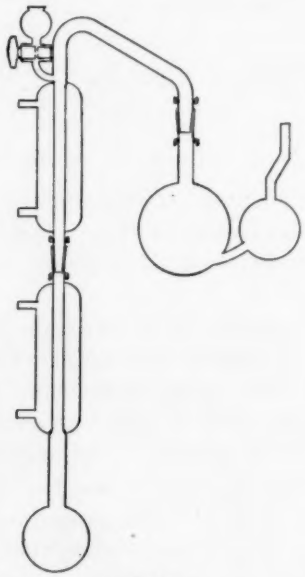

Fig. 2.

persulphate or chromic acid, using the apparatus shown in Fig. 1. Later, using the same principle but a much smaller apparatus (Fig. 2), thus making possible the use of very small samples for analysis, Willard and Thompson[2] developed a micro method for the determination of halogens.

The accuracy, rapidity and general applicability of the Thompson-Oakdale Method suggested its use in the determination of halogens in Pharmacopœial organic compounds, and a comparison with Pharmacopœial methods where possible. With the exception of thyroxin, the larger apparatus was used for halogen determinations described in this publication.

Determination of Iodine.—Depending upon the amount of halogen present, a 0.5–1 Gm. sample and 0.2 Gm. of copper sulphate are placed in the flask, A. A solution prepared from twenty Gm. of chlorine-free sodium hydroxide and 1 Gm. of arsenic trioxide dissolved in 75–100 cc. of water, is placed in the absorption flask, E. Twenty cc. of fuming sulphuric acid, containing 20–30% sulphur trioxide, are added through the dropping funnel, D. The mixture is boiled gently

[1] Thompson and Oakdale, *J. Am. Chem. Soc.*, 52 (1930), 1195.

[2] Willard and Thompson, *Ibid.*, 52 (1930), 1893.

for thirty minutes. Thirty-five cc. of 95% sulphuric acid are then added and the mixture boiled vigorously until it is clear. Fifty cc. distilled water are added cautiously to the boiling mixture. Water is removed from the condenser and 10 cc. of 30% hydrogen peroxide (superoxol) are added in portions, the boiling being continued to drive the liberated iodine through the condenser. Five cc. of a saturated aqueous solution of hydrazine sulphate are added to reduce any iodate which might have been formed, and the mixture is boiled for five minutes. Hydrogen peroxide is then added to expel any iodine. The contents of the absorption flask are now transferred to a 600-cc. beaker, and an excess of hydrogen peroxide is added and the mixture heated to boiling to oxidize any sulphite to sulphate. The solution is cooled and acidified with dilute nitric acid, phenolphthalein being used as indicator. The iodide is then precipitated with an excess of silver nitrate solution, and 5–10 cc. of concentrated nitric acid is added to dissolve any silver salts other than halides. The solution is boiled until the silver iodide is coagulated. The precipitate is collected on a weighed filtering crucible, washed with a 2% solution of nitric acid, then with distilled water and finally with acetone. The crucible is then dried at 130°.

Determination of Chlorine and Bromine.—The procedure is the same as for the determination of iodine except that after the sample has been heated with the fuming sulphuric acid for thirty minutes, 10 Gm. of finely powdered chlorine-free potassium persulphate, suspended in 20 cc. of 95% sulphuric acid, are added through the dropping funnel. The mixture is boiled vigorously until it is clear. An excess of a saturated solution of potassium permanganate is then added, the water is drained from the condenser, and the boiling is continued for five minutes to expel any chlorine or bromine which may remain in the flask or condenser. The above variations are necessary because iodinated compounds are more easily decomposed than those containing chlorine or bromine. In both determinations an analysis may be completed in from one to one and one-half hours. The results reported in the following table were obtained from analyses of U. S. P. X products procured from reliable sources and were not purified or altered in any way, except to be dried in a desiccator over calcium chloride or sulphuric acid to constant weight. The results, with the exception of thyroid, are of two or more determinations checking within 0.05% of each other by the Thompson and Oakdale method, and within 0.2% when the U. S. P. procedures were used.

TABLE OF RESULTS.

Compound.	U. S. P. requirements.	Calculated.	% Halogen found, U. S. P. Method.	% Halogen found, Thompson-Oakdale Method.
Calcium iodobehenate	23.5% I	26.56% I	24.67% I	25.14% I
Carbromal		33.71% Br	...	33.63% Br
Chloral hydrate	99.5% pure	64.31% Cl	...	63.97% Cl
Chloramine	11.5–13.5% Cl	12.58% Cl	12.70% Cl	12.92% Cl
Dichloramine	28–30% Cl	29.54% Cl	29.65% Cl	29.50% Cl
Iodoform		96.67% I	...	96.70% I
Thymol iodide	43% I	46.14% I	45.91% I	45.93% I
Thyroid	0.17–0.23% I		0.23% I	0.122% I
Thyroxin	63% I	65.36% I	63.00% I	64.17% I
Trichloracetic acid	99% pure	65.09% Cl	...	64.97% Cl

DISCUSSION OF RESULTS.

Calcium Iodobehenate.—The results show that the U. S. P. assay method for iodine determination gives lower results than the Thompson-Oakdale Method. The first method required several trials in which varying results were obtained before two determinations checking within 0.1% were possible. The latter method possesses the advantage of requiring only ordinary precautions in carrying out a determination, and is more accurate and more rapid.

The determination of halogens in carbromal, chloral hydrate, iodoform and trichloracetic acid illustrates the accuracy of the Thompson and Oakdale Method and suggests the possible desirability of a purity rubric based on halogen content. The purity of chloral hydrate was determined by the U. S. P. Method and found

to be 99.54%. This is in close agreement with 99.48% purity based on halogen content. The purity of the sample of trichloracetic acid was found by the U. S. P. assay method to be 99.79% which is also in close agreement with that calculated from the halogen determination and found to be 99.48%.

The Thompson-Oakdale Method applied to chloramine and dichloramine determines total chlorine present, while the U. S. P. Method determines active chlorine.

Iodine was determined in thyroxin,[1] using the micro method. Samples of 15–25 mgms. weighed on a Bunge air-damped balance, type 4 DM, with a capacity of 200 Gm., were used. Using chlorine-free chemicals, no blank determination was found to be necessary. This method is unquestionably superior to any fusion method as far as accuracy is concerned, especially in cases which demand the use of extremely small samples for analysis.

Wide variation between the results obtained for iodine content of thyroid[2] determined by the U. S. P. Method and the Thompson-Oakdale Method will be noted. The only probable error using the latter method is the possibility of volatile iodine compounds being formed in the oxidation of the thyroid which would not be absorbed by the alkaline sodium arsenite solution. This possible source of error was eliminated by placing a narrow bore quartz tube about 25 cm. long between the condenser and the absorption flask, connection being made by black rubber tubing. Heating the central portion of the tube to redness by means of two Meker burners decomposes any volatile organic iodide and permits complete absorption of the iodine.

It seemed that the discrepancies obtained by the U. S. P. assay methods might be due to, (*a*) the presence of iodides in the reagents used, or (*b*) to the production of compounds, during the oxidation, which might liberate iodine from potassium iodide. The results obtained from several blanks were constant and accounted for an error of 0.04%, thus reducing the percentage of iodine from 0.23% to 0.19%. This, obviously, does not account for the variation of results between the two methods. Iodine in several samples of thyroid was determined by fusing a sample with the mixture directed to be used in the U. S. P. Method, dissolving the fused mixture in water, acidifying with nitric acid, and precipitating the iodide as the silver salt. Fairly consistent results were obtained averaging 0.081% iodine. This would indicate that some iodine is actually lost by the fusion method. If, in the oxidation of iodides formed by the fusion of thyroid, periodates were formed instead of iodates, a greater amount of iodine would be liberated by the action of potassium iodide. To determine the possibility of this, samples of pure potassium iodate were dissolved in water and acidified with sulphuric acid. The iodate was reduced to iodide with sulphur dioxide, the solution was then made alkaline with sodium hydroxide and the excess sulphur dioxide was oxidized to sulphate with hydrogen peroxide, the excess of which in turn was destroyed by boiling. The amount of fusion mixture used in the assay of thyroid was then added to each sample and the iodide was oxidized exactly as directed by the U. S. P.

[1] We are indebted to Dr. John F. Anderson of E. R. Squibb and Company's Biological Laboratories who furnished the thyroxin for this analysis.

[2] We wish to express our appreciation to Dr. Frederic Fenger of the Armour Laboratories who furnished the thyroid used in these analyses.

assay method. Upon acidifying, adding potassium iodide and titrating with tenth normal sodium thiosulphate solution, the calculated amount of iodine was found to be liberated. Because of the extreme accuracy of the Thompson and Oakdale Method, the difference in results is thought to be due to some error in the U. S. P. assay method as yet unexplained.

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A COMPARATIVE STUDY OF THREE ASSAY PROCEDURES FOR CAMPHORATED TINCTURE OF OPIUM, U. S. P.*

BY A. R. BLISS, JR., E. L. DAVY, W. H. BLOME, N. T. CHAMBERLIN, R. I. GRANTHAM, R. W. MORRISON.

INTRODUCTION.

Camphorated Tincture of Opium, commonly called "*Paregoric*" (meaning "*soothing*") and originally known as "*Elixir Paregoricum,*" is found in the U. S. P. X, but no assay procedure is provided in the Tenth Revision or in any previous revision. The small amount of Opium in this tincture and the presence of the other ingredients make an assay procedure for this preparation more or less involved.

Eaton (1) proposed an assay method for Camphorated Tincture of Opium which, in the hands of some workers, has given satisfactory results. This method was included in this study as "Method III."

Kippenberger (2), Warthle (3), and Puckner (4) each suggested methods of assay for this preparation which appeared to yield more or less satisfactory results as carried out by these investigators. Buchbinder (5) proposed a method in 1917 which was based on the work of the four investigators whose names have been mentioned above. This method was included also in this collaborative study as "Method I." St. John (6) elaborated a method which is adapted for small samples of this tincture. This method was studied too as "Method II."

Caines (7) suggested a colorimetric method for the determination of small amounts of morphine. Warren and McClosky (8) in commenting on this method state that, as applied to Camphorated Tincture of Opium, the morphine is obtained in comparative purity by suitable treatment, and the color produced with sulphuric acid and a saturated solution of potassium iodate is compared with a known standard under similar treatment.

The American Drug Manufacturers' Association, Subcommittee on Alkaloids and Drug Standards (9), studied the Buchbinder Method and an unpublished method devised by one of its members. In 1929 this sub-committee felt that the differences in the results obtained by four workers warranted further study. In 1930 this sub-committee reported that no further work is required on this product at this time. In view of the fact that the maximum and the minimum findings of this group were 0.055 and 0.027, one fails to understand the recommendation made by this subcommittee.

The three methods which follow were applied to portions of a very carefully prepared Camphorated Tincture of Opium, U. S. P. X.

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* Scientific Section, A. PH. A., Miami meeting, 1931.

ASSAY OF CAMPHORATED TINCTURE OF OPIUM. (PAREGORIC.)

METHOD I.

Reagents.—Alkaline Salt Solution. Dissolve 25 Gm. of sodium hydroxide in 1000 cc. of water, saturate the solution with sodium chloride and filter.

Barium Chloride Solution.—Prepare a saturated solution of barium chloride in water.

(Adapted for large samples of tincture.)

Evaporate 200 cc. of the sample to a volume of 50 or 60 cc.; transfer the residue to a separator, rinsing the vessel in which the evaporation was made with several small portions of water. Add the rinsings to the separator. Shake out three times with chloroform, using 20 cc. each time. Collect the chloroform in another separator and wash it with 5 cc. of water. Reject the chloroform and add the wash water to the main aqueous solution. Withdraw the latter into a beaker and rinse the separator with several small portions of water, adding the rinsings to the beaker. Heat the beaker on the water-bath until the chloroform is expelled, Cool. Add 20 cc. of 10 per cent sodium hydroxide solution and rotate the beaker so as to mix the contents. Transfer the solution to a 200-cc. graduated flask containing 1 Gm. of powdered sodium chloride for every 3 cc. of the solution. Add 15 cc. of water, stopper the flask and shake gently until the salt is dissolved. Rinse the beaker with several portions of alkaline salt solution, adding the rinsings to the graduated flask. Add enough alkaline salt solution to make the volume of the contents of the flask about 175 cc. and rotate the flask gently so as to mix the contents without causing excessive frothing. Add 15 cc. of the barium chloride solution, reduce the froth by the addition of a little alcohol, and make up to volume with alkaline salt solution. Stopper the flask and shake thoroughly. Filter through a large, dry, fluted paper, rejecting the first 20 cc. of the filtrate. If the filtrate is not clear, refilter.

By means of a pipette remove 100 cc. of the filtrate (corresponding to half the volume of the sample taken) and introduce the liquid into a separator (No. 1). Add concentrated hydrochloric acid in portions—toward the end not over $^1/_2$ cc. at a time—until the solution is acid to litmus; then add stronger ammonia water in portions—toward the end not over 4 drops at a time—until the mixture is alkaline; finally add 1 cc. in excess. (It is important that the quantities of acid and ammonia be added with the precision indicated.) Immediately shake out 6 times with chloroform containing from 5 to 7 per cent of alcohol, using 30, 20, 20, 15, 15 and 15 cc. Filter each successive chloroform fraction into a separator (No. 2) through a piece of cotton wetted with chloroform and wedged into the neck of a small funnel. Discard the liquid in separator No. 1.

Add 15 cc. of alkaline salt solution to separator No. 2, shake thoroughly and withdraw the chloroform layer into a separator (No. 3). To separator No. 3 add 5 cc. of alkaline salt solution. Shake well, withdraw the chloroform layer into a beaker and add the alkaline salt layer to separator No. 2. Return the chloroform to separator No. 3 and shake with a fresh portion of 5 cc. of alkaline salt solution. Reject the chloroform layer, and keep the alkaline salt layer (in separator No. 3) for later use. Shake out the alkaline salt solution in separator No. 2 twice, using 25 cc. of chloroform each time. Collect the chloroform in separator No. 3. Shake the separator No. 3, reject the chloroform layer and add the alkaline salt layer to the main alkaline salt solution in separator No. 2.

To separator No. 2 add concentrated hydrochloric acid very carefully, adding no more than 2 or 3 drops beyond the neutral point; then add 1 cc. in excess. Add 3 cc. of water and 4 cc. of alcohol; next add concentrated ammonia carefully, adding no more than 1 or 2 drops beyond the neutral point; then add 5 drops in excess. Immediately thereafter shake out 6 times with chloroform containing from 5 to 7 per cent of alcohol, using 30, 10, 10, 5, 5 and 5 cc. Filter each successive shake-out through cotton wetted with chloroform into a beaker.

Evaporate the chloroform on the water-bath to dryness. Add 10 cc. of neutral alcohol to the residue and heat until solution has taken place. Add 1 drop of methyl red T. S. Add 0.02 *N* sulphuric acid until the solution is acid with an excess of from 2 to 5 cc. At this stage

look out for any undissolved specks. Heat again if necessary. Evaporate most of the alcohol, and cool the residue. Titrate the excess acid with 0.02 *N* sodium hydroxide which has been ascertained to be sufficiently free from carbonates to give a sharp end-point with methyl red T. S. If more than 150 mg. of morphine are indicated, repeat the analysis with a smaller quantity of the sample.

Each cc. of 0.02 *N* H_2SO_4 = 0.00607 Gm. $C_{17}H_{19}O_3N + H_2O$.

NOTE: Both in the initial and final extraction of morphine with the organic solvent, test several drops of the sixth shake-out—after evaporation—with Marquis' reagent. If necessary, repeat extraction until a negative test for morphine is obtained. In that event, however, increase the quantities and volumes of all subsequent reagents so as to maintain the proportions prescribed.

METHOD II.

(Adapted for small samples of tincture.)

To 50 (or 100) cc. of the sample add 2 cc. of approximately *N* sulphuric acid and evaporate the mixture on the steam-bath to a volume of about 10 cc. Transfer the residue to a separator (which has been tested in the centrifuge and found to show no leak when centrifuged half full of chloroform for 5 minutes) or to an infant's 8-ounce milk bottle. Wash the evaporating dish twice with approximately 0.5 *N* sulphuric acid, using 10 cc. each time and adding the washings to the separator. Add about 9 Gm. of sodium chloride and carefully neutralize the solution by adding concentrated ammonia by drops, finally adding 5 drops in excess. Add 30 cc. of a mixture consisting of 85 volumes of chloroform and 15 volumes of alcohol. Shake the mixture and centrifuge it until a clear separation is obtained. Separate the immiscible solvent (by means of a pipette in case of the milk bottle) and run it into a separator (No. 2). Repeat the extraction of the alkaline solution with successive portions of 30, 20 and 20 cc. of the solvent mixture, collecting the extracts in separator No. 2. Test a few drops of the 4th extraction for alkaloids.[1]

Add 15 cc. of alkaline salt solution to separator No. 2. Extract the morphine from the chloroform-alcohol solvent by shaking, using 3 successive portions of 15, 10 and 10 cc. of the alkaline solution, respectively, and collecting the extracts in separator No. 3. Wash the combined alkaline salt solution with 10 cc. of chloroform and discard the chloroform. Exactly neutralize the alkaline salt solution by adding hydrochloric acid drop by drop, finally adding 1 cc. in excess. Cool the solution under the faucet and shake it with 10 cc. of chloroform. Remove the chloroform to another separator (No. 4) and shake it with 5 cc. of saturated salt solution to which 3 drops of hydrochloric acid have been added. Discard the chloroform in the fourth separator and add the acid salt solution to the solution in the third separator.

Add stronger ammonia water to the third separator till the solution is just alkaline, and then add 8 drops in excess. Cool the solution under the faucet and extract the alkaloid immediately with successive portions of chloroform containing from 5 to 7 per cent of alcohol by volume. Filter each successive chloroform fraction into a beaker through a piece of cotton wetted with chloroform and wedged into the neck of a small funnel. Discard the liquid in separator No. 3.

Evaporate the chloroform on the water-bath to dryness. Add 10 cc. of neutral alcohol to the residue and heat to dissolve the alkaloids. Add 1 drop of methyl red T. S.; add 0.02 *N* sulphuric acid until the solution is acid with an excess of from 2 to 5 cc. At this stage look out for any undissolved specks. Heat again if necessary. Evaporate most of the alcohol, and cool the residue. Titrate the excess acid with 0.02 *N* sodium hydroxide which has been ascertained to be sufficiently free from carbonates to give a sharp end-point with methyl red T. S.

Each cc. of 0.02 *N* H_2SO_4 = 0.00607 Gm. $C_{17}H_{19}O_3N + H_2O$.

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[1] NOTE: Both in the initial and final extraction of morphine with organic solvent, test the residue remaining on evaporation of several drops of the 4th shake-out—after evaporation—with Marquis' reagent. If necessary repeat the extractions until a negative test is obtained. In that event, however, increase the quantities and volumes of all subsequent reagents so as to maintain the proportions prescribed.

METHOD III.

Evaporate 100 cc. of camphorated tincture of opium to 15 cc. and transfer the residue to a separator, washing the container with small portions of water and adding the washings to the separator. Shake the mixture with two portions of 15 cc. each of water-washed ether and reject the ether. Add 50 cc. of lime water to the separator and agitate thoroughly. Filter, washing the filter well with lime-water and adding the washings to the filtrate. Shake the filtrate three times with 15 cc. each of chloroform and then with 15 cc. of water-washed ether.[1] Collect the ether-chloroform in another separator and wash it with 10 cc. of lime-water. Return the lime-water to the original solution and reject the immiscible solvent. Add 20 cc. of alcohol and 30 cc. of chloroform to the solution and enough of a 1 per cent solution of ammonium chloride to free the morphine. Shake the mixture thoroughly for several minutes and draw off the chloroform layer. Test the aqueous liquid for free ammonia with wet litmus paper held in the mouth of the separator. Shake out the aqueous layer with 4 successive additional portions of 30 cc. each of a mixture of 5 cc. of alcohol and 20 cc. of chloroform. Combine the alcohol-chloroform fractions and wash the solution with 10 cc. of water, rejecting the washings. Pass the chloroform through a filter wetted with chloroform into a beaker and wash the filter with fresh chloroform.

Evaporate the chloroform on the water-bath to dryness. Add 10 cc. of neutral alcohol to the residue and heat to dissolve the alkaloids. Add 1 drop of methyl red T. S. and sufficient 0.02 *N* sulphuric acid until the solution becomes acid with an excess of from 2 to 5 cc. Heat again if necessary. Evaporate most of the alcohol, and cool the residue. Titrate the excess acid with 0.02 *N* sodium hydroxide.

Each cc. of 0.02 *N* H_2SO_4 = 0.00571 Gm. of $C_{17}H_{19}O_3N$.

COLLABORATIVE WORK.

The collaborators' reports are given in the table below.

TABLE I.—ASSAYS OF CAMPHORATED TINCTURE OF OPIUM, U. S. P.

Analyst.	Method I. Gm. per 100 cc.	Method II. Gm. per 100 cc.	Method III. Gm. per 100 cc.
E. D. Davy	0.0429	0.0460	0.0400
	0.0431	0.0453	0.0387
	0.0481	0.0456	0.0376
	Aver. 0.0447	Aver. 0.0456	Aver. 0.0388
N. T. Chamberlin	0.0454	0.0408	0.0445
	0.0446	0.0415	0.0433
	0.0432		0.0405
	Aver. 0.0444	Aver. 0.0412	Aver. 0.0426
R. I. Grantham	0.0404	0.0468	0.0341
	0.0432	0.0485	0.0308
	Aver. 0.0418	Aver. 0.0477	Aver. 0.0325
R. W. Morrison	0.0410	0.0447	0.0508
	0.0424	0.0440	0.0446
	0.0424	0.0447	0.0482
	Aver. 0.0419	Aver. 0.0445	Aver. 0.0478

[1] NOTE: Be sure to remove all uncombined alkaloids at this point; use more solvent if necessary.

A. R. Bliss	0.0433	0.0458	0.0362
	0.0412	0.0476	0.0382
	0.0428	0.0462	0.0366
	Aver. 0.0424	Aver. 0.0465	Aver. 0.0370
W. H. Blome	0.0436	0.0446	0.0450
	0.0436	0.0446	0.0450
	0.0433	0.0439	0.0444
	Aver. 0.0435	Aver. 0.0444	Aver. 0.0448

COLLABORATORS' COMMENTS.

E. D. Davy.—"I presume you also want preference if there be any, and my preference as to workability, time consumed, etc., is Method II.

"In Methods I and III the number of shakings made was double the number stated in the method and a faint test for morphine could still be gotten with Marquis' reagent. The test, however, when extraction was stopped, was so slight as to make further extractions unwarranted.

"Number 3 of Method I (see Table I) is considerably higher than the other two and can be accounted for only by the ammonia which may not have been entirely dissipated by heating, upon evaporation of the chloroform before titration."

N. T. Chamberlin.—"I am sorry to report that because of the breaking of our centrifuge the second method is somewhat curtailed. The second check of the second method was centrifugalized twice only and then shaken out. The first check was shaken out entirely. The third check was lost.

"I would like to point out the possibility of getting fair results by this method (Method II) without the use of the centrifuge."

R. I. Grantham.—"Method I is quite tedious, and the results obtained are lower than the results obtained by Method II. Method II is more expeditious and the results are higher than either of the other two methods, and appears to be satisfactory. Method III does not appear to be satisfactory because the results are quite low.

"It is noticed that in Method I and in Method II the factor for calculating the morphine is given with one molecule of water. I think the factor should be given for anhydrous morphine."

R. W. Morrison.—"Ten shakings were required before negative tests were obtained for morphine in Methods I and III.

"Some interesting gravimetric checks were obtained as follows:

Method I.	Gravimetric.	Volumetric.
A	0.0442	0.0410
B	0.0438	0.0424
C	0.0434	0.0424
	Average 0.0438	0.0419
Method II.		
A	0.0498	0.0447
B	0.0482	0.0440
C	0.0495	0.0447
	Average 0.0492	0.0445
Method III.		
A	0.0501	0.0508
B	0.0455	0.0446
C	0.0497	0.0482
	Average 0.0484	0.0478

"Several assays run according to Method II, but without the use of the centrifuge, gave results with inappreciable variations when compared with those obtained with the centrifuge."

L. F. Kebler and Co-workers (10).—"The directions should be followed to the letter and the determination should be carried out as rapidly as is consistent with careful manipulation. On no consideration should the morphine be allowed to remain in the alkaline salt solution for any considerable time, over $^1/_4$ to $^1/_2$ hour, as loss of morphine due to oxidation occurs.

"It has been found to be imperative to keep the proper ratio of NH_4OH to ammonium salts in the solution to be extracted, hence the specific directions in regard to the addition of the acid and ammonia.

"It is also imperative in the final shake-out with chloroform to shake immediately after making alkaline, for while freshly precipitated morphine is readily extracted by the solvent used, if allowed to stand it becomes crystalline and its extraction becomes very difficult.

"The procedure for estimating the morphine is somewhat involved on account of the small amount and the other ingredients contained therein. Considerable practice is also required to obtain accurate results. Experienced workers, however, obtain fairly concordant results."

W. H. Blome.—"Method I is exceedingly long and for that reason expensive. While it seems to be a very good method, it is too long and too expensive for routine industrial use. The morphine is very difficultly soluble in the chloroform-alcohol mixture, the shaking out directed in the last paragraph of the first page requiring fourteen shakings before the solution was extracted of its contained morphine. The shaking directed in the second paragraph, page 2, required eight shakings. The results are very close to the theoretical morphine content of the tincture.

"We found Method II for the assay of Paregoric to be much simpler and to require much less time than Method I.

"Method III is apparently good but takes much more time than Method II. Emulsions form which are more difficult to handle than is the case with Method II. We had to shake out twelve times instead of four times as directed in the method.

"While Method I may give excellent results, we feel it is not practical for the reason that it takes altogether too much time, and is therefore too costly and would tie up containers and mechanical apparatus too long in a manufacturing pharmacist's laboratory. We feel that Method II is as accurate, but much easier to carry out and much less expensive."

A. R. Bliss, Jr.—"In so far as the reported results are concerned, both Methods I and II yield results which are close to the theoretical amount of morphine present. The average for the six reporting collaborators by Method I is 0.0431, and by Method II, 0.0450. Method II gave higher yields than Method I in the hands of five of the six reporting workers. However, Method II is preferred because it is less involved, less tedious, more rapid, and, in addition, it yields higher values. Our experiments indicate, also, that in the hands of a careful, experienced worker the use of the centrifuge may be dispensed with.

"Method III on the whole seems to be unsatisfactory. While the lowest yield with Method I was 0.0404 and the highest 0.0481 (see Davy's comments); and with Method II the lowest was 0.0408 and the highest 0.0485; with Method III the lowest was 0.0308 and the highest 0.0508, a range of 0.02 Gm. Three of the six workers obtained their lowest yields with Method III, and two their highest."

CONCLUSIONS.

1. Method I is too long, tedious and expensive.
2. Method II is less involved, more expeditious and is less expensive.
3. Method III is the least satisfactory of the three procedures studied; yields the least concordant results.

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INCOMPATIBILITIES OF SOME IMPORTANT NEWER CHEMICALS.*

BY CHARLES F. LANWERMEYER.

In his daily compounding of prescriptions, the pharmacist is often confronted with the problem of incompatibility. The physician knows what action he needs in the particular case and prescribes the individual drugs in combination; but it is up to the pharmacist to make an elegant, chemically and physically compatible mixture. The various textbooks on pharmacy devote some space to incompatibilities and there are also books like Ruddiman's "Incompatibilities" devoted exclusively to this subject.

In this day of multifarious new chemical production, the authors of these texts would have to publish annual editions in order to keep step with the manufacturers. It was in order to fill this gap that the following work was undertaken.

This work presents the Literature References in a condensed form as well as the results obtained by the author in making mixtures such as the dispensing or manufacturing pharmacist might be asked to compound. The following chemicals, which are listed either in the U. S. P. or in the "New and Nonofficial Remedies," were used in this study: Acriflavine (Base), Acriflavine Hydrochloride, Amidopyrine, Barbital, Sodium Barbital, Benzocaine, Butesin, Butyn, Ephedrine Hydrochloride, Ephedrine Sulphate, Neonal, Phenobarbital and Procaine Hydrochloride. References to these items in the literature were examined, and combinations with other drugs were made up and allowed to age in the laboratory.

AMIDOPYRINE.

(Also known as Pyramidon and Amidozone.)

The solubility of Amidopyrine stated in the U. S. P. is 1 Gm. in 18 cc. of water. Other texts claim 1 in 11 (E) (X), 1 in 20 (Y), 1 in 9 (B). The author found that the U. S. P. solubility is correct. According to *Comptes rend.*, 1927-185, p. 284. "the difference in water solubilities was accounted for because of this often being a mixture of A and B Pyramidon."

It is incompatible with acacia producing a colored solution (R). This is due to the oxydase present, and can be prevented by heating the acacia to 85° C. which destroys the oxydase (S). A blue-violet color is produced by many oxidizing agents like ferric chloride, silver nitrate, nitric acid, spirit of nitrous ether, lead dioxide,

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* Scientific Section, A. PH. A., Miami meeting, 1931.

iodine solutions and some enzymes (P). Mixed with aspirin even in two separate granulations (as in tablet manufacture) it will become yellow in a few months. If mixed and moistened in granulation it will become sticky and stick on the compressing machine (P). It is incompatible with amyl nitrite and apomorphine (BB). Mixed with citric or tartaric acids it forms a sticky mass in a short time, but with salicylic acid this occurs at once. With salol it becomes yellow colored in a short time. Dissolved in Elixir Lactated Pepsin it changes the color of the elixir to purple and precipitates on standing. Dissolved in Essence of Pepsin it remains unchanged when fresh but precipitates on standing. With mercury bichloride it masses and becomes grey colored. With neonal it becomes sticky and develops a slight odor. Its aqueous solution has a slightly alkaline reaction. Mixed with the following there is no apparent change: Antipyrine, acetphenetidin, ammonium chloride, borax, cinchophen, tannic acid, potassium acetate, sodium phosphate, sodium biphosphate, lead acetate, methenamine, menthol, phenolphthalein, potassium bromide, potassium iodide, sodium salicylate, extract of cascara and calomel.

Acriflavine (Base).

Acriflavine is soluble in three parts of water (R), incompletely soluble in alcohol (T), nearly insoluble in ether, chloroform, liquid petrolatum and fixed and volatile oils (R). Its solutions have a neutral reaction (P), hydrochloric acid destroys its fluorescence (P). Solutions precipitate with silver nitrate (P), sodium hydroxide gives an orange precipitate in dilute solutions (P). Solutions 1 to 1000 can be made in Normal Saline Solution (X). A solution in oil can be made by dissolving 2% (based on the final) in a small amount of alcohol and then diluting with castor oil q. s. (X).

Acriflavine Hydrochloride.

(Also known as Trypaflavine.)

Acriflavine Hydrochloride is soluble in three parts of water (BB), although commercial samples vary considerably (T). It is soluble in alcohol 1 in 40 (BB), insoluble in ether, chloroform, liquid petrolatum, fixed or volatile oils (T), insoluble in oleic acid and eucalyptol (BB). Its solutions have a distinct acid reaction making it incompatible with carbonates or bicarbonates (T). It is incompatible with Dakin's Solution and other chlorine antiseptics, mercury bichloride and phenol in solution (BB). A solution in Normal Saline Solution is clear when freshly prepared, but precipitates in 24 hours although if the saline solution contain 5% salts, precipitation takes place at once (BB). It is compatible with an 0.5% sodium citrate solution. Its solution in water is stable even when boiled or autoclaved at 130° C. Stains can be removed with a little dilute hydrochloric or sulphurous acid followed by washings with water.

Anesthesin.

(Also known as Benzocaine, Ethylaminobenzoate or Keloform.)

Heated with soluble alkali hydroxides and carbonates Anesthesin decomposes into alcohol and *p*-aminobenzoic acid (P). Aqueous solutions precipitate with iodine (P), small amounts of hydrochloric acid increase its solubility (P). It is

incompatible with acids or acid salts in solution (W). Its aqueous solution is decomposed by boiling but solutions in oil can be boiled (W). If used in combinations containing perfume materials like vanillin or heliotropin even in small amounts, discoloration will result. Mixed with bismuth subnitrate it discolors in a few months; with resorcin it forms a sticky mass and discolors on standing. Mixed with the following substances no apparent change takes place: Bismuth subgallate, zinc sulphocarbolate, sodium bicarbonate, magnesium oxide, bismuth subsalicylate, salol, sodium thiosulphate, acetanilid, boric acid, tincture ferric chloride, milk of bismuth, milk of magnesia, calomel, cerium oxalate and ammonium bromide.

Barbital.

(Also known as Veronal, Barbitone, Hypnogen or Malonal.)

Barbital and acetphenetidin are antagonistic physiologically, as tested on guinea pigs (*Arch. Expt. Pharm. & Pharmacol.*, 116-140-6 (1926). Antipyrine is antagonistic to the sedative effect of barbital, but the stimulating effect of the two is synergistic (*Arch. Expt. Pharm. & Pharmacol.*, 114-313-26 (1926). Heating with alkali carbonates or hydroxides decomposes it, liberating ammonia (P). It darkens with calomel slowly; but when moist or if sodium bicarbonate is present it darkens immediately (P). With alkalies it forms salts that are soluble in water (P).

Barbital Sodium.

(Also known as Medinal.)

Barbital Sodium is incompatible with ammonium salts (*viz.*, ammonium bromide) giving off ammonia and precipitating barbital; (barbital itself is not changed in this way (H). It is incompatible with acid salts, morphine hydrochloride and with solutions containing fruit essences on account of the acid present (H). With Tincture of Cinchona it precipitates out the alkaloids but the reaction takes 24 hours.

Butesin.

(Also known as Scuroforme.)

Butesin is almost insoluble in water and when boiled in it is slowly hydrolyzed; it is soluble in dilute acids, alcohol, chloroform, ether, benzene and fatty oils. Its solution in oil is not decomposed by heat. It is incompatible with silver nitrate (R). It dissolves very readily in oils of cassia, cloves and wintergreen; with resorcin it masses at once and changes to a green sticky mass. It is insoluble in liquid petrolatum. With the following in dry mixtures there is no apparent change:—Bismuth subnitrate, calomel, betanaphthol and sulphur; also sulphur ointment.

Butyn.

Butyn is incompatible with alkali carbonates and hydroxides precipitating out the free base, with soluble bicarbonates precipitating out the carbonate (R); it precipitates with the general alkaloidal reagents (P); it is incompatible with iodine solution, barium chloride and picric acid (R). It decolorizes potassium permanganate solution. It is incompatible with chlorides or saline solutions, but isotonic solutions can be made using potassium sulphate in the following amounts:

1/2% solution requires 1.34 Gm. K_2SO_4 per 100 cc.
1% solution requires 1.21 Gm. K_2SO_4 per 100 cc.
2% solution requires 0.97 Gm. K_2SO_4 per 100 cc.
5% solution requires 0.24 Gm. K_2SO_4 per 100 cc.

It is incompatible with silver protein preparations in solution, precipitating yellowish brown at once. With lead acetate solution it precipitates lead sulphate at once but makes a good shake mixture. With Fluid Extract of Hydrastis, Fluid Golden Seal Compound and Solution Hydrastine there is no apparent change.

Ephedrine Hydrochloride.

Ephedrine hydrochloride is soluble in water 1 to 7, in alcohol 1 to 8, the solutions being neutral. It is insoluble in ether (BB) (T). It is incompatible with silver salts, causing precipitation; with amidopyrine in solution it precipitates; and it is incompatible with Syrup of Wild Cherry. With the following there is apparently no change: Elixir Euphorbia Compound, potassium bromide, potassium iodide, aspirin, amidopyrine (dry), acetanilid, acetphenetidin, barbital, phenobarbital, neonal, calomel, sodium bicarbonate, magnesium carbonate and oxide, phenolphthalein, quinine sulphate, sodium salicylate, neocinchophen, methenemine, potassium acetate, caffein, caffein citrated, Elixir Terpin Hydrate, Brown's Mixture and Syrup of White Pine Compound.

Ephedrine Sulphate.

Ephedrine sulphate has practically the same properties as the hydrochloride, except that it is less soluble in cold alcohol, is compatible with silver salts and is incompatible with potassium iodide causing yellow discoloration of the solution, forming a precipitate; with Neonal it causes a strong ethereal odor, with methenemine a strong urine-like odor; with potassium acetate a strong odor is also developed. With all the other combinations mentioned above under Ephedrine Hydrochloride there was no apparent change.

Neonal.

Neonal is incompatible with acetanilid developing a foreign odor. A mixture with amidopyrine becomes sticky and develops an odor. With calomel, especially if any moisture is present, the mixture turns grey although if perfectly dry there is apparently no change. With salicylic acid it develops an odor. With the following there is apparently no change: Acetphenetidin, ammonium bromide, bismuth subnitrate, magnesium oxide, sodium bicarbonate, sodium bromide and sodium salicylate.

Phenobarbital Sodium.

Phenobarbital sodium is unstable unless stored in air-tight containers in the dark (H). In aqueous solution, on standing or by boiling, it is partly decomposed with formation of phenyl ethyl acetyl urea, which precipitates out (Y). On account of its alkaline reaction it has the same incompatibilities as the alkalies, and may therefore precipitate alkaloids out of solutions of their salts such as caffeine and strychnine out of elixirs and syrups (L). It is incompatible with ammonium bromide in solution, precipitating out the phenobarbital (H), the supernatant liquid having an ammonia odor (L)

PROCAINE HYDROCHLORIDE.

(Also known as Ethocaine, Kerocaine, Neocaine, Novocaine and Syncain.)

Novocaine is incompatible with iodine and with picric acid solution (D). Also with mercuric chloride, gold chloride and Mayer's reagent (P), and with silver salts (R). With sodium carbonate or hydroxide solutions, the base separates out as an oily liquid (D) (P). With sodium bicarbonate there is no change (P). It is incompatible with tannin, calomel, potassium dichromate and permanganate (BB). Its solutions can be sterilized at 100° C. without change but are damaged at 120° C.

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Among other things, a successful Pharmacy Week display is dependent on a definite purpose. After selecting a topic, the next important thing is to "stick to your text."

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Hubbard, W. S.
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Let the setting of your Window Display for Pharmacy Week be in keeping with the intent and purpose of the occasion—to impress the message of Pharmacy Week as a profession.

AVERAGE PRICES OF PRESCRIPTIONS IN BUFFALO, N. Y., AND COLUMBUS, OHIO, WITH AN ESTIMATE OF TOTAL VOLUME OF PRESCRIPTION BUSINESS IN THE UNITED STATES.*

BY LEON MONELL[1] AND CLARENCE M. BROWN.[2]

In this day and age of so-called "Commercial Pharmacy," students and pharmacists are constantly raising questions as to the number of prescriptions being filled by drug stores and the average price of these prescriptions.

The first of these questions, namely, the number of prescriptions has been answered by the surveys of Robert L. Swain of Baltimore, Md., and Leon Monell, one of the authors of this paper.

These surveys were made without consultation and that of Mr. Swain covers the State of Maryland for the year 1930, while the other surveys cover Buffalo for the year 1927 and New York State for the years 1929 and 1930.

The work of Mr. Swain will be reported at this meeting of the A. PH. A.[3] The results of the survey in Buffalo were reported before the Section on Practical and Dispensing Pharmacy last year, in Baltimore, and was published in the JOURNAL A. PH. A. in June 1930. The New York State surveys for the years 1929 and 1930 were prepared by the Committee on Pharmaceutical Economics of the New York State Pharmaceutical Association and will appear in the proceedings of the Association but in advance of this publication, the data may be found in the *Practical Druggist, Merck's Report,* the *New York Pharmacist* and the *Druggists Circular.*

The second of these questions, as far as my information goes, namely, the average price of prescriptions in independent stores has not been determined statistically by any one.

The method used in the compilations herewith included was to secure the actual prices of an equal number of prescriptions compounded for each month of the year 1930. In this way seasonal variations are eliminated. This method, it is believed,[4] is the one being used by the N. F. Revision Committee in their study of ingredients of prescriptions and will be followed by Mr. Swain who is contemplating making a similar study in Maryland.

In order to make this study broader in scope, Prof. Clarence M. Brown, of the College of Pharmacy of Ohio State University, was communicated with and invited to collaborate in the study herewith presented. He has secured the actual prices on 8916 prescriptions from nine stores in Columbus.

In Buffalo, the study was further amplified by going outside of the city for one store and in addition by dividing the stores into groups according to the number of new prescriptions filled. Group I consisted of stores filling less than 3000 new prescriptions per year and in these stores the actual prices of the first 80, including narcotics, in each month of 1930 were secured. Actually, in the case of one store, only 463 new prescriptions were filled during the year and all of these were included. Group II were those filling between 3000 and 10,000 new prescriptions a year and in

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* Section on Commercial Interests, A. PH. A., Miami meeting, 1931.

[1] Associate Professor of Commercial Pharmacy, University of Buffalo.

[2] Assistant Professor of Pharmacy, Ohio State University.

[3] Reported in Joint Session of Scientific Section and Section on Practical Pharmacy and Dispensing, and Conference of Pharmaceutical Law Enforcement Officials.

[4] L. M.

these stores the actual prices of the first 150 per month were secured; and Group III included those filling more than 10,000 new prescriptions a year, and in these stores the actual prices of the first 300 per month were obtained—in all a total of 18,703 prescriptions for Buffalo and Western New York.

In addition to this data, we have listed the maximum and minimum prices of prescriptions filled by these stores; the results are as follows:

THE AVERAGE PRICE OF PRESCRIPTIONS IN DOLLARS.

City.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Columbus	.911	.954	.920	.966	.960	.984	.964	.958	.973	.905	.911	.927	.940
Buffalo and Western N. Y.	.960	.984	.948	.968	.1007	.993	.998	.1000	.990	.988	.971	.1012	.985
Average	.940	.970	.939	.967	.987	.991	.987	.987	.985	.962	.952	.985	.971

It will be noted that in Columbus, Ohio, the average price was the highest for the month of June, while in Buffalo the average price was the highest for the month of December. The average price for prescriptions per month in Columbus did not vary more than $.08 and in Buffalo the variance was not more than $.065. This information would indicate that there is no great difference in the price of prescriptions due to seasonal variation.

The stores selected in Columbus ranged in number of new prescriptions filled from seven to sixty per day. The stores selected in Buffalo ranged in number of new prescriptions filled from a little over one a day to one hundred and twenty-five per day.

The data from the Buffalo group, when segregated according to the number of prescriptions being filled, shows the average price as follows: Group I, $.88; Group II, $.99 and Group III, $1.05—showing that the larger the number of prescriptions being filled the greater the average price. Is not this what one would expect? Many small stores or stores not doing a large prescription business do not carry the more expensive prescription items and apparently make no attempt to secure them. We believe, however, that such a procedure is detrimental to the best interests of pharmacy in that it shows a tendency toward subordinating the purely professional work of compounding to the commercial side. Compounding is the corner-stone of the structure of the professional status of Pharmacy and we wreck the entire edifice by neglect of this foundation.

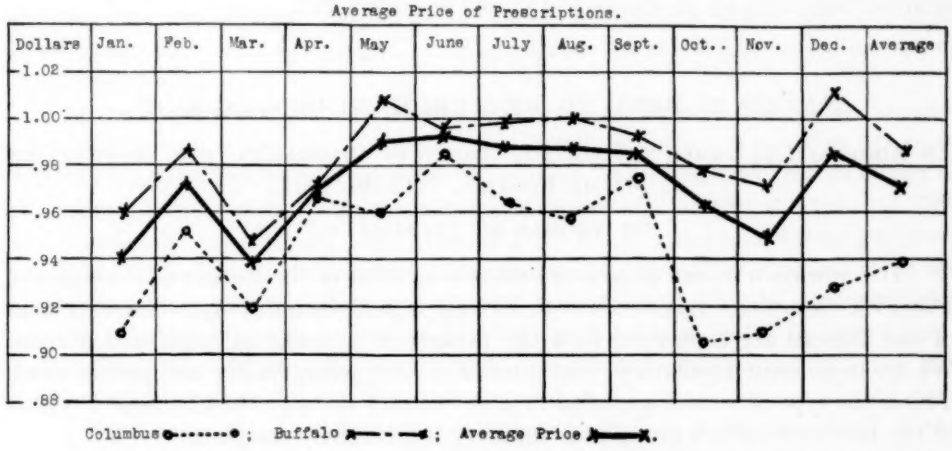
As stated, in our method the maximum and minimum prices of prescriptions were recorded. In the case of both cities, the minimum price charged by any store was $.15 per prescription. This occurred in one store in each city studied. The next lowest price was $.20 occurring in two stores in Columbus and the next lowest price was $.25 which occurred in six stores in Columbus and seven stores of Buffalo. The highest minimum price in the Buffalo stores studied was $.40 while in Columbus it was $.25. Is this not a sad state of affairs and the cause of some of the problems facing pharmacy to-day? Does it not take just as long to receive a prescription, compound it, number, file and deliver it for fifteen, twenty or twenty-five cents as it does for a prescription selling for one dollar and even up to five and ten dollars? Is not the liability of error in dispensing it just as great as for a higher priced prescription? Did not the patient go to the physician for diagnosis and treatment and pay him as much as though he had received a prescription which did cost one dollar or more? Is it just, that even the simplest prescription should be com-

pounded at a price no more than the price of a glass of soda water or a sundae? We believe that some of our problems of supporting professional pharmacy would be overcome if we had a minimum fee or a compounding fee of say $.50, then pharmacists would not need to worry so much about side-lines.

When we examine the maximum price paid for a prescription, we find that the highest price was $18.00 in a Columbus store. The next highest prices were $12.00 and $11.00, both in Buffalo or Western New York stores. (Incidently, the highest individual prices were in the stores compounding the largest number of prescriptions.)

The highest average price per prescription was $1.18. This occurred in a store in Western New York which had the largest prescription business of the stores surveyed, namely, about 200 per day. The highest average price per prescription in Columbus was $1.06 which occurred in the store filling the second largest number of prescriptions of the stores surveyed in Columbus.

Average Price of Prescriptions.



Columbus ●·····●; Buffalo ×— - —×; Average Price ×——×.

With a knowledge of the number of prescriptions filled in the country and the average price of prescriptions, it is possible to calculate the volume of business in the United States per year. In order to calculate this, it will be necessary to refer to the studies mentioned earlier in this paper.

Mr. Swain, in his report on the number of prescriptions filled in Maryland, states that there were two prescriptions per person per year filled in Maryland for the year 1930.

By using the figures in the report of the Committee on Pharmaceutical Economics of the New York Pharmaceutical Association concerning the number of prescriptions filled per store and the number of practicing drug stores in the state, as furnished by the secretary of the New York State Board of Pharmacy, it is shown that there were 2.25 prescriptions filled per person in the State of New York by using the census figures for the population of New York. Using these figures as a basis of calculation, an average of 2.2 prescriptions per person per year is secured for the two states. Continuing calculations in a similar manner—but using the U. S. Department of Commerce Census figures for the population of the United States as 122,775,046—there were compounded during the year 1930, about 270,105,000 prescriptions. When the average price of $.971 per prescription is calculated for the country, it shows a total volume of $262,272,053.

This study was begun early in the spring of the present year and the figures do not harmonize with the figures reported in the June 4th issue of the *N. A. R. D. Journal*. The article quotes Wroe Alderson, chief business specialist of the U. S. Department of Commerce, as saying before the American Pharmaceutical Manufacturers' Association at French Lick Springs that "the number of prescriptions filled annually is between 120,000,000 and 180,000,000 at a cost of $90,000,000 to $135,000,000 to the consuming public."

It is evident to the most casual reader of this paper that a great discrepancy exists between the report of Mr. Alderson and the figures derived from the study made in Columbus and Buffalo. From the above quoted article, we could not ascertain the source of the data upon which Mr. Alderson based his calculations as to the total volume of prescription business in the U. S., but it is assumed to have come from the St. Louis Drug Survey. It is therefore apparent that a more extensive study of this subject is necessary and should be undertaken.

NATIONAL DRUG STORE MERCHANDISING SURVEY.

AN ADDRESS DELIVERED BEFORE THE AMERICAN PHARMACEUTICAL ASSOCIATION AT MIAMI, FLORIDA, JULY 30, 1931.

BY THOMAS W. DELAHANTY.*

It is always a source of pleasure when a member of the Bureau of Foreign and Domestic Commerce has occasion to address a professional body. The functions of our Bureau are concerned with the promotion of trade at home and abroad. We are in no sense regulatory—our interest is solely constructive and promotional. This is the type of service accorded to your industry through the Chemical Division of the Bureau to which group your industry is arbitrarily assigned.

In the foreign field we facilitate the obtaining of raw materials for the pharmacist and have assisted in finding an annual market abroad for over 20 million dollars worth of medicinals and pharmaceuticals.

Among our domestic activities may be cited our stimulation of firms to carry on scientific and commercial research and our work with trade associations and groups, in the field of market survey, simplification and standardization. Then there are trade surveys of commercial areas, as to buying power, marketing methods, distribution and other factors which have been valuable guides to industry and the retailer. Finally there are surveys of the type of the "National Drug Store Merchandising Survey."

The Government cannot attempt to solve the distribution and merchandising problem of every branch of industry; all we can hope to do is to select a few representative branches and work out a procedure which may with modifications and variations be applied to all. In selecting such it is preferable to choose those branches wherein a high degree of coöperation is available.

The trade associations in the pharmaceutical field—manufacturers, wholesalers, retailers and related scientific groups were engaged in work which would tie in with such a study and prevailed upon the Bureau to conduct a "National Drug

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Store Merchandising Survey." Furthermore, the coöperation extended, particularly by the profession and industry of St. Louis, was a vital factor in the selection of that city for the clinical phase of the study.

Now the study is well under way—8 months from now the data will be all in and we shall have the most comprehensive distribution survey ever conducted comprising data relative to retail costs, retail processes and store arrangement, wholesale and manufacturing costs, study of credit conditions and causes of business failure and related facts pertinent to efficient merchandising.

While the data is national in scope, the key to its interpretation is the clinical study in progress in St. Louis. In Washington all one can see is a corps of clerks assembling data and a battery of tabulating machines and operators. The spectacular phase is in St. Louis. Here one sees the "wheels go round"—the mechanics of the study. Those who contemplate deriving benefit subsequently might well visit the city and observe how we do it. I was out there a month ago. It is so interesting that one of the motion picture concerns has offered to take a picture of the survey mechanism.

In brief, there are 14 stores under examination in the St. Louis clinic—11 independents, 2 chain stores and 1 professional. The stores selected range in size from a sales volume of $25,000 to over $500,000 and are located in every distinct type of community and location. Beginning April 1st, a carded inventory was taken of each store, and a group of clerks keep these control records up-to-date from purchase invoices. Changes in selling prices, merchandise display, advertising and deals are entered as made and the effect recorded, so that subsequently the characteristics and the element of profit or loss in handling may be established for every commodity handled. Even meterological data, events and competitive influence is a matter of daily record.

Furthermore all advertising matter appearing in St. Louis is filed daily at the survey office and photos are taken of the window displays of the stores under observation whenever they are changed.

A crew of observers are assigned to each store and time studies of selling operations, as well as traffic studies, are periodically in progress. Trained pharmacists are recording prescriptions for an intensive evaluation of the prescription department. Another crew is engaged in a consumer study—200–300 consumers in each of the 14 localities will be interrogated.

While the 14 drug stores selected represent 900 drug stores in metropolitan St. Louis, another crew will visit 300 other druggists in the trading area of St. Louis and ascertain facts as to their location, sales volume, etc., and an analysis will be made of their purchases through coöperation of the local wholesalers. This will accord a more composite picture and be representative of rural as well as urban store merchandising.

Why druggists in St. Louis during the past five years have failed is under investigation by trained credit men in the field and should be helpful in preventing repetitious mistakes.

A number of representative wholesale establishments throughout the country will be selected for complete cost analysis.

The Bureau of the Census is at present compiling data on the National Census of Distribution under the supervision of Dr. R. J. McFall and Mr. J. Guernsey, and

such data in process of release by states in summarized form will ultimately be analyzed as to drug store distribution. Within the past 2 weeks 12 preliminary state summaries of retail distribution have appeared. During the next month we shall probably release one for each of the remaining 48 states. You should be vitally interested in the comparisons presented concerning the number of drug stores, and the net sales, in relation to the total retail outlets of all kinds and the total net sales. The 12 summaries released to date are of two northwestern states—Washington and Idaho, 2 southwestern states—Colorado and Arizona, 3 central states—Missouri, Indiana and Kentucky, 2 northeastern states—Maine and Rhode Island, and 3 southeastern states—Georgia, Alabama and Florida.

Some of the interesting facts revealed in the foregoing 12 summaries show that the *per capita* purchases in drug stores run from $8.25 in Kentucky to $17.75 in Colorado. The *per capita* clientele of drug stores in these states varies from 1500 in Colorado, Missouri and Florida to 3000 in Kentucky. Such stores represent $3^1/_5$ per cent of the total retail outlets in Kentucky compared with 5% in Missouri. Retail drug stores do 3 per cent of the total retail business in the state of Washington and practically 5 per cent in Florida. Each Florida and Missouri drug store averages approximately $25,000 in net sales in contrast to $43,500 in Arizona. The number of drug stores in these twelve states runs from a low of 165 in Arizona to practically fourteen times this number in Missouri. Separate data are presented for the net sales of drug stores without fountains and for those with fountains. Only $^1/_6$ per cent of the stores in Rhode Island are without fountains whereas in Idaho over half are without this service. The representative low average net sales of each type are $18,000 non-fountain and $27,000 fountain in Alabama, and $38,000 non-fountain and $46,000 fountain in Arizona are representative high averages. A fountain drug store in Missouri, however, has practically twice the amount of net sales as a non-fountain type.

A composite of the twelve states referred to represents approximately 18 per cent of our drug stores and of our population, each drug store with 2100 prospective patrons and net sales of $26,500 annually or a per capita consumption of $13.00. On the estimated basis of 60,000 drug stores in the United States, these outlets merchandise $1^1/_2$ to $1^3/_4$ billion dollars worth of goods annually.

For the benefit of our hosts, the pharmacists of Florida, let me present the following: The population of this state is approximately $1^1/_2$ million. In 1929 there were 977 drug stores in the state. It will probably interest you to know that the St. Louis metropolitan area has about the same population and that there are about 900 drug stores there.

Focusing our attention on the distribution data we find that drug stores represent $4^1/_2$ per cent of the total stores in Florida and the net sales of these 977 drug stores amounted to $24^1/_2$ million dollars representing approximately 5 per cent of the total net sales of the 22,411 retail establishments in Florida. Drug store net sales were within 2 million dollars of the receipts of the 550 hotels in Florida and 3 million dollars in excess of that of the 2332 restaurants and eating places.

A host of other store comparisons may also be made. Exclusive of tourists the average store has 1500 prospective patrons, probably one of the smallest per capita clienteles. On the other hand the per capita purchase is one of the largest, amounting to $16.35.

We likewise find that 1/3 of the drug stores have no fountains and the net sales of this group average $20,000 annually against $27,000 for the 654 fountain stores.

While not a fair comparison it may interest you to know that while I was in St. Louis the Educational and Statistical Committee of the Cinchona Club released composite figures showing the average net sales of 40 independent drug stores in that city, all fountain type, which amounted to approximately $35,000 in 1930 in contrast to the average net drug store sales throughout the state of Missouri which were $16,800 for non-fountain type and $32,300 for the fountain drug store.

I have accorded this rather detailed summary solely to illustrate the character of material, the extensive scope, the national and yet local comparisons that may be made and the benefit that may be derived by manufacturer, wholesaler, retailer and all other interested parties, from the banker to the consumer. By way of illustration I am privileged to announce that Mr. A. C. Nielson, an industrial engineer of Chicago is about to conduct a fountain study on behalf of a client, in 18 stores located in 12 strategic cities from the Atlantic to the Pacific, using the outlined procedure developed in our summer fountain study which was completed on July 25th. You may likewise be interested to know that Mr. Paul C. Olsen representing the Druggists' Research Bureau, has been released by that Bureau for a period of six weeks for the purpose of contributing to the work of the survey. The Bureau of Foreign and Domestic Commerce publications which will subsequently be released should enable any group or an individual retailer to test and apply the results. The twenty-two local sub-committees and the fifty odd district and coöperative offices of the Bureau of Foreign and Domestic Commerce will likewise be at your service for interpretation as to application of the data developed.

From a strictly professional angle, it should be of vital interest to scientists, research workers, boards and colleges of pharmacy, enforcement agencies, those engaged in compiling standards such as our Pharmacopœia and Formulary, the medical profession and those interested in the cost of medical care, and in the health of communities generally, for with this basic study as a yardstick supplementary studies on practically any related field may be subsequently developed.

The entire study is carried out under the counsel and guidance of the professional chemists and pharmacists of the Chemical Division of the Department of Commerce, and you may be interested to know that Mr. C. C. Concannon, Chief of the Chemical Division, delegated as field counselor, Mr. Frank Delgado, the drug promotion specialist of our staff, who is a graduate pharmacist, a member of your ASSOCIATION, who has practiced his profession here in Florida as well as abroad and who last year was accorded the honor of selection as Assistant Secretary of the United States Pharmacopœial Convention.

In closing I wish to state that the pharmaceutical profession owes a debt of gratitude to the 14 drug stores in St. Louis and to the wholesalers of that city who have so willingly subjected their businesses to the dissecting eye of the survey group in order that all drug store factors throughout the United States may profit by the findings.

We in the Department of Commerce are looking forward to April 1932, when we hope to announce the termination of a monumental investigation. We are proud of the spirit of coöperation which we have encountered throughout this survey and we hope that when every one here returns to his community he will

instil enthusiasm among those of his associates who may not be conversant with the significance and value of the study. There is yet much to be done and we need your increasing interest and support if we may serve you to the fullest extent.

Prescription Case Unit on display at Miami in charge of Prof. Anton Hogstad, Jr. Chairman Ralph E. Terry, of the Section on Practical Pharmacy and Dispensing, at the Counter.

PHARMACY WEEK WINDOW DISPLAYS.

The National Committee hopes that from October 11 to 17, 1931 there will appear upward of 50,000 window displays in the drug stores of the country, which will effectively demonstrate the importance of the service of pharmacy to the public. A display of this character in every one of our drug stores would unquestionably start the public talking of the value of the pharmacist and create a consciousness which would build more good will and appreciation than could possibly be obtained by the expenditure of many millions of dollars on advertising.

Announcements will be made in our next issue of the national broadcasting programs for Pharmacy Week. Every retail druggist should plan now to devote at least one of his windows to a real Pharmacy Week display October 11th–17th.

Begin now to think about and collect the material which will be of unusual interest to the public and which will reflect your professional activities; books on pharmacy, illustrations, apparatus, drug containers, vegetable drugs, medicinal plants, minerals, chemicals, etc., etc.

DEPARTMENT OF BUSINESS MANAGEMENT

Conducted by Paul C. Olsen.*

COMMENTS, QUESTIONS AND SUGGESTIONS ARE INVITED AND WELCOME.

Readers are invited to submit comments, criticisms and suggestions regarding the material which appears in this department. The Editor will also undertake to answer questions regarding general problems of business management. Letters of general interest will be published, but the writer's name will not be revealed without his permission.

ADVERTISING AND SELLING PROBLEMS OF DRUG STORES.

Cut Price Problems and What Can Be Done about Them.

BY PAUL C. OLSEN.

When a druggist buys a dozen of a dollar item for $8.00, about the only thing he is sure of is that he will make a total gross profit of $4.00, *if he sells all the merchandise.* In the preceding article in this series, I tried to emphasize the importance of that *italicized* phrase above. Even if merchandise is presented to a retail druggist, at no cost at all, he can't possibly make any money from it unless he sells it.

Even the $4.00 gross profit is none too secure in these days of increasingly keen price competition, as many thousands of druggists will testify to their sorrow.

But of the three determinants of profit—margin turnover and volume—margin (gross profit) is the only one which is known in advance with any degree of certainty. Because of this fact, margin is usually considered to be the most important of the three determinants of profits earned from the sale of merchandise in a drug store.

Any one who doubts the truth of this statement needs only to observe a druggist's pleased smile of anticipation, when merchandise which he thinks he can sell is offered to him with larger than the usual gross margins.

In further proof of this widespread belief that margin is the most important determinant of net profits from the sale of drug store merchandise, one has only to listen to the enthusiastic salesman talking with red-faced earnestness about his line of merchandise on which it is possible to "double your money." What he means, of course, is that the gross margin on this merchandise, *if it is sold at the anticipated retail price,* is 50 per cent of the selling price.

Still further proof of this widespread belief is to be found on page after page of manufacturers' advertisements in drug journals. Look at this one, for instance.

"This package means more net profit. *Such and Such* gives you extra profit on a standard price of $12.00 per dozen and only a single stock to carry.

"Not $14.40 but $12.00 per dozen. This price is $2.40 less per dozen than what you pay for ordinary *Such and Such* and means a direct saving of 16⅔ per cent. Turning our *Such and Such* into profit you have $9.60 from every dozen instead of $7.20—33⅓ per cent more profit. Not including free goods.

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"Not a sixth of a dozen free but a quarter of a dozen free. This amounts to $5.40 more profit. With a $2.40 less cost price and a quarter of a dozen free, you get $7.80 more profit on every dozen when you sell our *Such and Such*. Even the occasional deals offered by competitors never touch this extra profit which is constant with us."

This emphasis on margin as a determinant of net profits from the sale of drug store merchandise results, of course, from the fact that it is the most easily determined of the three elements, margin, turnover and volume, which operate to produce profits. It is not very easy to see, for instance, that money invested in merchandise on which the gross profit is only 25 per cent actually may produce far more dollars of net profit than a like amount of money invested in merchandise on which the gross profit is 50 per cent.

However, a $10.00 investment in this low gross margin merchandise may produce a net profit of $1.00 within a month after the investment is made, thus releasing the money for further similar investments each month, making a total net profit in a year's time from the same $10.00 of $12.00.

On a gross margin of 25 per cent, the total sales made in a year from this $10.00 investment in merchandise amount to $160.00.

In the case of the merchandise on which the gross margin is 50 per cent, it very well may happen that six months elapse before all this merchandise is sold and the $10.00 invested is thus free for similar reinvestment. Even if $2.00 net profit is made from the sale of this merchandise on which the gross margin is 50 per cent, it will be seen that it is possible to earn such a profit only twice in a year's time, or a total from the single $10.00 investment, of $4.00 in a year. This is only one-third as much as was the case in the instance cited above. Profit *per dollar of sale* was twice as much in the case of the merchandise with the high gross margin, but the total amount of profit was small on account of the small volume of sales and the slow rate of turnover. Only $40.00 sales resulted in the case of merchandise with the 50 per cent gross margin and the rate of turnover of the merchandise stock was only one-sixth as rapid as was the case of the merchandise with the 25 per cent gross margin.

All of the above is simply a theoretical explanation of how large net profits may be made (on account of rapid turnover and large volume) in the case of merchandise which sells readily and quickly even though the gross margins are not large. I hope this theoretical explanation makes the principle clear. This is, however, most decidedly a theoretical explanation and no druggist needs to be told that in the actual every day operation of a drug store the theory doesn't work nearly as smoothly as the hypothetical example cited above might lead an inexperienced person to think.

My purpose is to make as clear as I can how the various interactions of margin, turnover and volume actually do produce different amounts of net profits in the sale of drug store merchandise and, more important, to point out what steps a druggist can take, in view of this unavoidable situation, to assure himself of the greatest possible amount of net profits.

It is necessary, too, for all of us to recognize that there are some classes of merchandise which have to be stocked in a drug store even though there is little or no opportunity for profit in them, even if they are sold. Any druggist who has looked over his stock carefully does not need to be told that postage stamps and

drinking water are not the only items on which opportunities for direct profit are negligible. There is only one point to be kept in mind with respect to this class of merchandise: recognizing the negligible opportunities of profit, such merchandise should be stocked and purchased only in minimum quantities.

When I speak of merchandise on which the opportunities for profit are exceedingly small, some people may conclude that I mean to include in this category fast-selling proprietary preparations on which widespread cut prices have reduced the gross margin obtainable to very small proportions.

To contradict this impression, I call attention to the fact that an examination by the Druggists' Research Bureau of over 200,000 individual sales of proprietary merchandise sold at cut prices in retail drug stores showed that sales of this merchandise not only were profitable, but produced net profits which were above the average of the net profits produced by all sales in these drug stores. This I consider to be convincing evidence of the fact that volume and turnover are of greater importance than margin, as a determinant of net profits in the sale of drug store merchandise.

One reason that facts, such as these, are difficult to believe is the following: If all this merchandise had been sold at the full price, instead of at the deep cut prices at which it was, the profits earned would have been far greater. Retail druggists, therefore, naturally and rightly hesitate to cut prices until forced to do so. What I'm trying to make clear is that standard merchandise sold rapidly and in large quantities can be profitable, although not as profitable if the same quantities were sold as rapidly at the full prices.

Cut prices result from the desire of some druggists to attract business from their competitors, knowing very well the lure to consumers of a large and evident saving upon popular, standard merchandise of known quality.

The aggressive price cutter also knows that he can make money selling this popular, standard merchandise at cut prices if competition doesn't force him to cut too deeply. And there lies the great weakness of the cut price plan for selling popular drug store merchandise. It is so easy for the plan to be copied and so easy, in the stress of such competition, to force prices on popular standard merchandise lower and lower until there can't possibly be any profit from its sale. Obviously no profits can be earned directly from the sale at 24 cents of merchandise which cost 27 cents, no matter how much merchandise is sold, nor how rapid the rate of turnover.

Aggressive price cutters know, too, that once a price is deeply cut, it is virtually a merchandising impossibility to raise it again even to cost price, much less to a price which permits some profit.

Another unfortunate effect of the aggressive price competition which exists on popular standard merchandise in the drug trade is that such price competition naturally cannot be confined merely to aggressive price cutters but must affect necessarily also the sales of this merchandise in the stores of druggists who recognize very well the aggravating effects of steadily deeper cuts in the prices of popular, identified merchandise.

The matter of how far to go in meeting price competition on standard, identified merchandise is one which each druggist must decide for himself, after a careful consideration of his own competitive situation. The effects of price cutting, however, are more widespread than is sometimes recognized. The druggist who operates

a drug store on the steamship Leviathan may feel that if anybody is free from competition, he is so situated. Yet he has a golden opportunity to create good will and, indeed to increase his sales, if he asks no more than the usual, or so-called, full prices for the standard merchandise which he sells. On the other hand, no one would argue that a druggist so situated should carry this desire to create good will and sales to the point of selling his merchandise at prices comparable with those of the most aggressive price cutter in New York City.

Even in cities in which price cutting is particularly aggressive—Kansas City and Chicago are examples—druggists who do not aim to attract business on a price basis have found that they can maintain their usual volume of sales without dropping their prices on standard merchandise to the lowest levels reached by aggressive price cutters in those cities.

However, it is usually necessary for them to make some concessions in prices on standard, identified merchandise in order to avoid creating the impression that prices of all merchandise sold in these stores are inordinately high.

It is a fact, proved by detailed cost examinations by the Druggists' Research Bureau that, when necessary or desirable, prices on popular standard merchandise can be dropped to a level which is no less than 6 cents above the net cost of some such merchandise and still be profitable. Below this level, it is doubtful if popular, identified merchandise can be sold at any profit in a drug store, regardless of the amount sold or the rate of turnover. A gross margin of 6 cents above the net cost of popular, standard merchandise is believed to be, therefore, the lowest price to which such merchandise can be cut and its sales still produce some profit.

All of this discussion of cut prices and their effects on drug store profits must force once again the conclusion that drug stores which depend for most of their success upon the professional services which they render are far free from the frequently disastrous effects of cut prices than drug stores which make the bulk of their sales in popular identified merchandise. Thus is shown for the great majority of drug stores the economic, as well as the ethical importance of the professional side of pharmacy.

PHARMACEUTICAL ENGINEERING.*

BY ARTHUR F. PETERSON AND ROBERT J. RUTH.

During the last few years pharmacy has been passing through a transition from the combined prescription and commercial pharmacy to the ethical prescription pharmacy on the one hand and to the purely commercial drug or patent medicine store on the other. Colleges of pharmacy have lengthened their courses in pharmacy to meet the needs and demands of the modern prescription laboratory, to make the individual a better and more exacting pharmacist and to broaden his power of usefulness to the physician as bacteriologist or physiological chemist, and further to give him a broader cultural background.

While progressive changes have been taking place in retail pharmacy even greater progress has been made in the manufacturing pharmaceutical, biological and medicinal chemical field. Better trained individuals in greater number are

* Section on Education and Legislation, A. PH. A., Miami meeting, 1931.

required now than before. It is unfortunate that it seems that these better trained workers are not being supplied from the pharmacy colleges as much as from colleges of chemistry, medical schools or agricultural colleges. This progress in the various pharmaceutical branches has necessitated the designing of new equipment, machinery and plants. It has made use not only of a greater knowledge of chemistry, physics and biology but also of a considerable knowledge of engineering as well.

The combining of courses in pharmacy with courses in engineering in our opinion offers one of the most promising of futures for the young man or woman who is really scientifically inclined. There is need for good courses in what we prefer to call Pharmaceutical Engineering. So far as we are aware, there is not now offered anywhere a course in Pharmaceutical Engineering. Would it not seem more logical for a pharmaceutical manufacturer to employ a Pharmaceutical Engineer than a chemical engineer? The latter is not primarily pharmaceutically minded. A well-trained Pharmaceutical Engineer, as we look upon his college preparation, which we shall outline below, will have as good a foundation in chemistry and engineering as the chemical engineer and will, in addition, know pharmacy, acquired from the ground up, so to speak. By pharmacy we refer to scientific pharmacy.

Some of our readers may wonder how large a field there is for the Pharmaceutical Engineer. The Pharmaceutical Engineer would find prospective employment wherever there is need for chemical or pharmaceutical and engineering knowledge. Let us enumerate some products the manufacturers of which employ chemical or pharmaceutical and engineering knowledge, and where pharmaceutical engineers would be expected to find not only desirable employment but that of the variety requiring highly technical knowledge:

1. Pharmaceuticals
2. Chemicals
3. Biological products
4. Acids
5. Alums and other aluminum products
6. Ammunitions and related products
7. Cleansing and polishing preparations
8. Compressed and liquefied gases
9. Proprietary medicine manufacture
10. Explosives
11. Fertilizers
12. Glue and gelatin
13. Linseed oil, cake and meal
14. Miscellaneous chemicals
15. Nitrogen and fixed nitrogen compounds
16. Paints and varnishes
17. Perfumes, cosmetics and other toilet preparations
18. Salt mining and refining
19. Soap
20. Dyestuffs, mordants
21. Wood distillation
22. Petroleum manufacture
23. Rubber products
24. Corn products
25. And probably many more.

The dollar value of output in the drug industries is increasing constantly. In 1921 the output for the U. S. was approximately $330,000,000; in 1927 it had increased to approximately $548,000,000. In 1927 there were in the U. S. about 2360 establishments manufacturing druggists' preparations. These plants employed, roughly, 55,200 persons, an average of 24 persons per establishment.[1] In the same year there were 457 plants manufacturing chemicals exclusive of those manufacturing (1) sulphuric, nitric and mixed acids, (2) explosives, (3) fertilizers,

[1] Dept. of Commerce Bulletin: Census of Manufactures. The Drug Industries: 1927.

and (4) wood distillation products. There were 35 establishments manufacturing sulphuric, nitric and mixed acids.[1]

The following figures are available for 1929:[2]

Industry.	No of establishments.	Wage earners, aver. for the year.	Value of products.
Ammunition and related products	20	7,217	23,960,105
Canning and preserving	3203	110,002	815,564,812
Chemicals, not classified elsewhere	532	62,130	725,600,389
Cleaning and polishing preparations	380	2,456	42,778,000
Compressed and liquefied gases	356	3,273	51,493,571
Druggists' preparations	418	10,739	126,647,771
Drug grinding	25	608	9,633,159
Explosives	97	5,775	74,535,916
Fertilizers	592	19,690	219,001,224
Fireworks	46	1,791	6,572,542
Flavoring extracts and flavoring syrups	567	4,685	117,395,640
Glue and gelatin	74	2,993	32,458,019
Iron and steel; blast furnaces	103	26,296	773,098,818
Mucilage, paste and other adhesives except glue and rubber cement	91	495	7,953,762
Paints and varnishes	1036	28,894	563,031,490
Patent and proprietary medicines and compounds	1481	16,281	313,764,874
Perfumes, cosmetics and other toilet preparations	803	12,960	191,039,469
Petroleum refining	375	76,840	2,611,680,940
Rayon and allied products	28	38,938	149,276,487
Soap	274	14,050	303,377,358
Sugar refining, cane	21	13,920	507,389,262
Tanning materials, natural dyestuffs, mordants and assistants, and sizes	111	2,204	34,374,239
Wood distillation and charcoal manufacture	91	4,642	29,617,290

When one considers the thousands of plants into which the Pharmaceutical Engineer would fit, it does not require a very wide stretch of the imagination to determine that it will be a long time to come before the chemical and pharmaceutical industries would not absorb all the pharmaceutical engineers that the universities may graduate.

Other things being equal, the Pharmaceutical Engineer would be given preference of position and advancement over all others particularly in Pharmaceutical and Medicinal Chemical establishments. Positions, among others, for which Pharmaceutical Engineers would be given preference may be mentioned: (1) General Superintendent, (2) Departmental Superintendent or Manager, (3) Chief Chemist, (4) Chief Control Chemist, (5) Chief Research Chemist, (6) Production Manager, (7) Employment Manager, (8) Purchasing Agent, (9) Cost Accountant, (10) or any other executive position connected with the plant, its operation or control. In the planning of a new plant and its equipment, and in its construction and installation of equipment, the pharmaceutical engineer would have the major rôle.

At this point it might be interesting to relate a true story told to one of the authors by a dean of a north central states college of pharmacy during his recent visit to Minneapolis. During our conversation he was asked what he would think

[1] Dept. of Commerce Bulletin: Chemicals: 1927.

[2] Dept. of Commerce Bulletin: Census of Manufactures: 1929. Summary of Industries.

of a course combining pharmacy with engineering. Discussion followed. He seemed favorably impressed with the idea. He said that a few years ago a man having an Engineer's degree decided to study pharmacy and subsequently enrolled in this Dean's college. When the engineer had completed the course in pharmacy, for which he received the degree of Pharmaceutical Chemist, he obtained a position with one of the larger pharmaceutical houses. The salary was said to have been $3000.00 per year. After a period of three years, this Engineer-Pharmaceutical Chemist was sent to a foreign country to supervise the construction of a branch pharmaceutical plant and its subsequent operation at a salary said to have been in round numbers $8000.00 per year. Without this man's intimate knowledge of engineering and pharmacy, he would, undoubtedly, not have been given the responsibility and the opportunity which he received. He knew his chemistry; he knew his pharmacy; he knew his engineering; he was better qualified for the job.

Some of you may ask why so much stress on pharmaceutical engineering since anyone who desires such a combination of courses may obtain it at almost any university in the country. That is true; almost any university can give such a course. The important thing to do is to give it a name. There is much in a name. Show a prospective student a list of the subjects given in courses in medicine, dentistry, civil engineering, pharmacy or chemical engineering, without disclosing the name of the course to which each list belongs. In few instances will this have any meaning to the student; it does not enable him to visualize a vocation in which he might find himself particularly interested. Give the list a name, that is, suggest the name of the vocation or profession to which these subjects pertain and very likely in most instances the student will be able to visualize immediately his like or dislike for the calling. Where would medicine, dentistry, chemical engineering, mechanical engineering, civil engineering or pharmacy, if you please, be if they did not each have a name? The fact that each has a name is an indication of the fact that there is organization, that there is an organized course of study, and the fact that there is an organized course of study indicates that there is a definite goal or occupation, or profession which, once the student has attained to this degree of accomplishment, will permit the man to pursue the work of his choice. Should the words "Pharmaceutical Engineer," "Physician," or "Lawyer" never reach his ears, the prospective student would make his selection from other vocations with which he had become somewhat familiar.

Now that there is a need for it, a combination of engineering, chemistry and pharmacy, let us organize it and give it a name, a logical name: Pharmaceutical Engineering.

Since we are not aware that a course in pharmaceutical engineering is offered as such in any institution anywhere, we are submitting as a part of this paper a model of a curriculum which we consider to be a well-organized intensive course in pharmaceutical engineering. We think that the course should be one of six years of work. We do not believe that a course given in less time would be of the quality which should constitute such a course. When one considers that Law (at University of Minnesota) is six years, medicine seven years plus one year's internship, dentistry five years, and of equal length in other institutions, it is reasonable to believe that a course in pharmaceutical engineering of shorter length would not attract the high caliber of student which we often find in these other professions.

We do not believe it advisable to confer any degree in pharmaceutical engineering for less than six years of work as prescribed in the model curriculum. On completion of six years of work as outlined, we suggest that the degree "Master of Science in Pharmaceutical Engineering" be conferred; the degree "Pharmaceutical Engineer" to be conferred upon one holding the Master's Degree in Pharmaceutical Engineering only after a year's employment in a manufacturing plant where he has had an opportunity to, and actually does, apply the principles of pharmaceutical engineering to his work, and only then upon his submitting a satisfactory written thesis and its acceptance by the proper committee.

For those who desire the Doctorate we have suggested an outline of a curriculum for the seventh year's work for which the candidate, upon successful completion of the work, should have conferred upon him the degree "Doctor of Science in Pharmaceutical Engineering;" the degree of Pharmaceutical Engineer to be conferred in this case also, as suggested above.

It would probably not be possible for some time for colleges operating apart from universities to give a course in pharmaceutical engineering, except by arrangement with an engineering school or college, operating independently, to give part of the instruction. To turn the idea about somewhat, an independent college of pharmacy could obtain increased enrollment by influencing engineering schools to offer the course, "Pharmaceutical Engineering" and thus obtain these additional students for pharmaceutical instruction. Those colleges of pharmacy operating as departments or colleges within a university would have no difficulty in giving a course in pharmaceutical engineering except for the arranging of the class schedule, because all of the subjects suggested in our model curriculum are offered in practically all universities.

SUGGESTED CURRICULUM COURSE IN PHARMACEUTICAL ENGINEERING.***

FIRST YEAR:

Fall Quarter:

	Hours credit.
Rhetoric	3
*Beginning German I	4
Inorganic Chemistry and Laboratory	5
Botany	3
Shop Practice (Pattern Shop)	2
Pharmaceutical Latin	1

Winter Quarter:

Rhetoric	3
*Beginning German II	4
Inorganic Chemistry and Laboratory	5
Botany	3
Shop Practice (Foundry)	2
Pharmaceutical Latin	1

Spring Quarter:

Rhetoric	3
*Beginning German III	4
Inorganic Chemistry and Laboratory	5
Botany	3
Shop Practice (Forge)	2
Pharmaceutical Latin	1

SECOND YEAR:

Fall Quarter:

College Algebra	5
Qualitative Chemical Analysis	5
Theoretical Pharmacy	3
Organic Chemistry	5
Drawing and Descriptive Geometry	2
Pharmaceutical Arithmetic	1

Winter Quarter:

Trigonometry	5
Quantitative Chem. Analysis (Gravimetric)	5
Theoretical Pharmacy	3
Organic Chemistry	5
Drawing and Descriptive Geometry	2
Pharmaceutical Arithmetic	1

Spring Quarter:

Analytical Geometry	5
Quantitative Chemical Analysis (Volumetric)	5
Theoretical Pharmacy	3
Organic Chemistry****	5
Drawing and Descriptive Geometry	2
Pharmaceutical Arithmetic	1

THIRD YEAR:

Fall Quarter:

Differential Calculus	5
Physiology	4
**Physics (Mechanics) and Laboratory	4
Materia Medica	3
Pharmacognosy	2

Winter Quarter:

Integral Calculus	5
Chemical German	3
**Physics (Electricity) and Laboratory	3 1
Materia Medica	3
Pharmacognosy	2

Spring Quarter:

Technical Mechanics (Statics)	5
Advanced Chemical German	3
**Physics (Heat and Sound) and Laboratory	3 1
Materia Medica	3
Pharmacognosy	2

FOURTH YEAR:

Fall Quarter:

Technical Mechanics (Dynamics)	5
**Physics (Optics) and Laboratory	3 1
Manufacturing Pharmacy	5
Physical Chemistry	5
Pharmaceutical Jurisprudence	1

Winter Quarter:

Hydraulics	4
Hydraulics Laboratory	1
Manufacturing Pharmacy	5
Physical Chemistry	5
Biological Assay of Drugs	3

Spring Quarter:

Bacteriology	4
Therapeutics—Pharmaco-Dynamics	3
Manufacturing Pharmacy	5
Physical Chemistry	5
Public Health, Hygiene and Sanitation	2

FIFTH YEAR:

Fall Quarter:

Strength of Materials	4
Electrometric Measurements and Titrations	3
Electric Power	3
Dispensing Pharmacy	5
Machine Design	3

Winter Quarter:

Heat Engines	4
Electrometric Measurements and Titrations	3
Electric Power	3
Dispensing Pharmacy	5
Food and Drug Analysis	3

Spring Quarter:

Heat Engines	3
Unit Processes	4
Electric Power	3
Dispensing Pharmacy	5
Food and Drug Analysis	3

SIXTH YEAR:

Fall Quarter:

Unit Process Problems	2
Applied Electrochemistry	3
Design of Chemical Equipment and Plants	2
Intermediates and Dyestuffs	3
Industrial Inorganic Chemistry	4
Chemical Manufacture (Inorganic)	3

Winter Quarter:

Unit Process Problems	2
Applied Electrochemistry	3
Design of Chemical Equipment and Plants	2
Industrial Organic Chemistry	4
Chemical Manufacture (Organic)	3
Thesis	3

Spring Quarter:

Unit Process Problems	2
Design of Chemical Equipment and Plants	2
New and Non-Official Remedies	2
Thesis	12

SEVENTH YEAR:

Fall Quarter:

Advanced Organic Chemistry	3

	Hours credit.
Advanced Organic Chemistry Laboratory	2
Advanced Physical Chemistry	4
Advanced Theoretical Physics	5
Differential Equations	3
Winter Quarter:	
Advanced Organic Chemistry	3
Advanced Organic Chemistry Laboratory	2
Advanced Physical Chemistry	4
Advanced Theoretical Physics	5
Advanced Calculus I	3
Spring Quarter:	
Advanced Organic Chemistry	3
Advanced Organic Chemistry Laboratory	2
Advanced Physical Chemistry	4
Advanced Theoretical Physics	5
Advanced Calculus II	3

* Students who have credit for two years of German in High School will take electives in the first year instead of beginning German. Two quarters of Zoölogy and one quarter of History of Pharmacy are especially recommended. Other subjects of value to the Pharmaceutical Engineer are Economics, Plant Management, Personnel Management, Labor Problems, Economic History of the United States.

** One year college Mathematics pre-requisite to these courses in Physics.

*** Description of practically all courses will be found in bulletins of the Chemistry School and Engineering College of the University of Minnesota, though bulletins of other colleges of Pharmacy were also referred to in arranging the suggested curriculum.

**** Those students who wish to pursue additional courses during summer sessions or during the regular sessions in case they already have credits for certain subjects, are urged to pursue work in Physiological Chemistry and as much other work in Biological Chemistry as possible.

A LIBRARIAN'S STORY.*

BY JOHN URI LLOYD AND JOHN THOMAS LLOYD.

"Are there not curious incidents connected with the collecting of books that form the library of a specialist?" the senior author of this paper was asked.

"Yes, some of them a novelist would hesitate to introduce because they might seem utterly unbelievable. Often do I reflect over them as mind turns to the past." Briefly, a few may be related.

When our library was begun there was no thought of collecting books except for personal service in our work on American plants and their products which demanded authentic historic references. Among these the two volume publication of the talented but erratic scientist, Rafinesque, issued in 1830 and 1832, serves as an example. Repeatedly this work was mentioned in writings on American materia medica, but the books were not available; even Dr. John King's library did not contain them. Second-hand book stores did not have them. Advertisements in booksellers' magazines as well as in the journals of the Eclectic, Thomsonian and Homœopathic schools of medicine failed to bring the desired response. Even from the library of Transylvania University, Lexington, Kentucky, where Rafinesque taught, his publications had vanished. Finally our search for them was abandoned.

Years later an aged physician in Indiana wrote that in his preceptor's library he had found a two-volume publication on American materia medica that might interest us. The title he gave was that of the rare work of Rafinesque. Our response was immediate—"Send it to us with bill." It came with pages uncut.

* Section on Historical Pharmacy, A. PH. A., Miami meeting, 1931.

The price asked was fifty cents. Needless to say the amount of the return check surprised the physician.

A few years ago a letter was received from a physician in California who explained that while hunting in the foothills far from any habitation he came upon a deserted and dilapidated cabin of a forgotten prospector. The door stood open, the window was glassless and the roof leaked. A small table stood in about the only spot in the room undamaged by weather and on it were two old volumes on medical botany which he decided to take and send to us. A few days later the books arrived, loosely wrapped in newspaper. The string of the package had been lost in transit and the address scribbled with lead pencil was barely legible. The books were the work of Rafinesque, our second set.

Our library is also fortunate in possessing an unpublished letter in the handwriting of Rafinesque, addressed to Dr. Manasseh Cutler. Its appearance here, we believe, is justified by the light it throws on the enthusiasm of this unique character who did so much toward preserving early records of botany and materia medica in this country. A copy of this letter follows:

Dr. Manasseh Cutler
Hamilton, near Salem, Mass.
Favored by Th. Bancroft

Palermo, 2d May, 1806.

Dear Sir:

I confirm what I had the pleasure to write to you per Alfred Capt. Felt and another opportunity offering for Salem I cannot help entreating you again to have the goodness to comply with my request of collecting and sending me some of your most curious plants and particularly such I have pointed out in my former letters, the numerous opportunities from Salem and Boston to this place will afford you every facility in forwarding me same.

I am still expecting to hear from you if you got the plants I left for you at Francis (indistinct) Hotel and if you liked them. If you have an European herbarium or wish to make one I am ready to forward you specimens of the finest and best station and Sicilian plants in return for those I expect from you—and beg you will command me in everything else in my power.

Please to remember to find me the list you promised me of the plants you have found in your Northern States since the publication of your paper in the *American Transactions*.

M. Rafinesque.

But the foregoing account of the acquisition of our sets of Rafinesque is more than paralleled by our experience with "Peter Smith's Dispensatory," the first medical book in covers printed west of the Alleghenies.

Peter Smith, a remarkable itinerant physician, farmer and wandering preacher, was a graduate of Princeton and a man of more than common learning. His "Dispensatory" was introduced by as quaint an advertisement as one could find anywhere, from which we quote a sentence.

"The author would notify the purchaser that he puts the price of one dollar on this book of service, well knowing that seventy-five cents would be enough for the common price of a book of its size. . . . . But those who do not choose to allow him twenty-five cents for his advice, may desist from the purchase."

This book was known only by reference in Rafinesque and other old medical works. We knew of no place where it might be found. Even the Library of Congress did not possess it.

About thirty years ago a party of friends were seated on the veranda of Middle Bass Fishing Club on Middle Bass Island, Lake Erie. The party consisted of President Grover Cleveland, Charlie Foster, Secretary of the Treasury preceding Cleveland's second administration, Admiral Robley Evans, Admiral Lamberton, Judson Harmon, Attorney General under Cleveland, General J. W. Keifer, for years Speaker of the House of Representatives of the U. S. Congress, Leroy Brooks, the host and John Uri Lloyd.

The subject of old books arose. General Keifer of Springfield, Ohio, leaned over and remarked—"By the way, Lloyd, I have an old book."

On being asked what it was he replied—"Peter Smith's Indian Dispensatory." So unexpected was the reply that no response came.

"It is an heirloom," General Keifer continued. "Peter Smith was my mother's father."

The story of our long search for this book was then related, and though an earnest appeal was made that the book might find a resting place in the Lloyd Library, General Keifer naturally refused to part with it. Though impervious to all arguments in favor of our library as a place of deposit, he kindly consented to loan the book for reproduction.

But the story is not yet complete. Long afterward, Miss Mollie E. Lewis, who was visiting in our home, brought a volume with the explanation that it was found among some old books in a closet of a house where she was visiting. She thought it might be of interest to the Lloyd Library and as the owner was willing to part with it, she had brought it to us. It was "Peter Smith's Indian Dispensatory."

This home was in Columbia, now part of the eastern end of Cincinnati. It was the landing place of the pioneers who floated down the Ohio River before Cincinnati was settled. From this place, General Anthony Wayne, "Mad Anthony," started his memorable invasion of the Indian country. Here Peter Smith, after a journey through the South, located and preached. In an old cupboard his Dispensatory lay for more than a hundred years.

Thus the Lloyd Library was enriched by an authentic original copy of this very rare volume.

Equally interesting is the history of our copy of Schoepf's "Materia Medica Americana." This book was written by the scientist, Johannes David Schoepf, who as a Hessian soldier was captured by Washington. Later, with pack on back, he traveled afoot through parts of America collecting botanical specimens and making careful record of the uses of the plants by the Indians and settlers. These studies were published in Germany on his return to Erlangen. Important as his book became, no copy could be found in America nor could it be obtained in Erlangen or elsewhere in Germany. We were informed that on account of lack of demand the entire edition had been sent to the paper manufacturer shortly before our inquiry was made. Learning of our search, Dr. Charles Rice borrowed a copy from the Public Library of Erlangen. From this borrowed book a manuscript copy was made which is still in our possession.

Later, Dr. Rice found a copy of the original in a second-hand book shop in Italy, purchased it and presented it to the Lloyd Library. Thus, at last, we acquired this very rare book, the first work ever published in book form on the medicinal plants of North America.

Surprises in collecting have not been by any means limited to books. For example, a letter in the hand writing and bearing the signature of the naturalist, John Burroughs, was found between the pages of a volume of nature stories when catalogued. Perhaps the rarest find of this nature was the autograph letter in the clear script of Thomas Jefferson, pasted in the first volume of Michaux's "North American Sylva." This letter was reproduced by photo process in Bulletin Number 28 of the Lloyd Library.

Rare collections of plants have also come to us. Outstanding among these is the historic Riddell collection, acquired within the past few weeks. Possibly this is the first collection of Ohio plants ever made. In the words of Dr. W. H. Aiken, our Librarian, "The first attempt toward the tabulation of plants growing in the immediate vicinity of Cincinnati was that which was made and published by Dr. Daniel Drake. Dr. Drake, in so far as is known did not make a collection of plants to verify his lists. In 1835 a second list was published by Dr. John Riddell, entitled 'A synopsis of the flora of the western states,' and supplemented in 1836 by a list of additions of Ohio plants discovered within the state. This catalogue with descriptions was read and specimens exhibited before the Western Academy of Natural Sciences, March 16, 1836." This extremely valuable Riddell collection came to us in the following manner.

A telephone call from Mrs. Ann Burt Norton, living in a suburb of Cincinnati, stated that she had some portfolios of plants which she would donate if we desired. On visiting Mrs. Norton we found that she is the great-great niece of Daniel Gano who took a prominent part in the early history of Cincinnati. Mrs. Norton's father, a botanist, received the collection from Daniel Gano as indicated by the following letter pasted on the cover of the first portfolio.

"Doctor Norton

Kind friend,

Knowing how interested you are in the science of Botany and having a large collection of dried, named and classified specimens of plants indigenous to this region in twelve cases prepared by Riddell (who gave lessons here many years ago) which I wish you to accept as a testimony of my respect and rare appreciation of your ability to make them useful in illustrating your lectures and teachings and which it will give me pleasure for you to have and use when you so desire.

With our kind regards to you and yours, in best bonds of true friendship,

Yours,

Dan'l Gano."

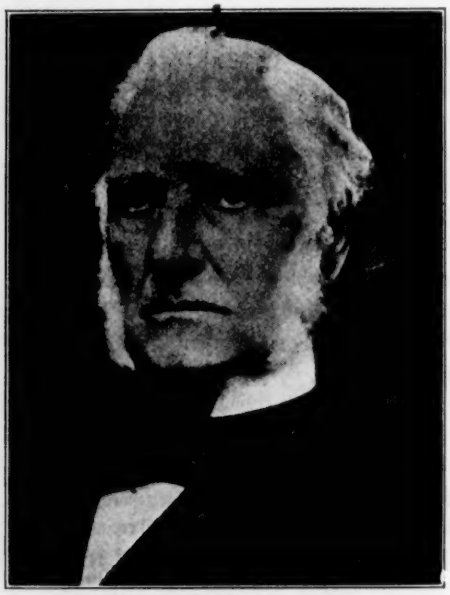
Collected about a century ago and soon lost to the scientific world, it is hard to realize how these plants so long escaped the depredations of insects or destruction from other causes. To-day they are as perfect as the day they were pressed. Fortunate was it that they were for so long in the keeping of a woman possessed of knowledge of the value of things scientific.

Old books and articles of historical interest to pharmacists are apt to become lost, worthless; stored in the Library or Museum of the American Institute of Pharmacy they will pay tribute to the donor's thoughtfulness.

PHILO CARPENTER—PIONEER PHARMACIST OF CHICAGO.*

BY WILLIAM B. DAY.

The summer of 1832 found the little settlement at Fort Dearborn at the head of Lake Michigan in desperate condition. Outside of the fort, there were scarcely two hundred persons in the village and the majority of these were Indians and half-breeds. The advantageous location, on the portage between the Great Lakes and the Illinios River, had been recognized by the French explorer, LaSalle, a century and a half before, but the incursions of hostile natives and the ravages of malaria had retarded settlement and now was added to these perils an outbreak of the dread disease, cholera. At this inopportune time arrived a young man who was destined to play an important part in the growth of the future metropolis. Philo Carpenter came of pilgrim stock. Both of his grandfathers had fought in the Revolution; one had been a major in charge of West Point at the close of that struggle. As a boy he had grown up on a farm in the Berkshires of Massachusetts and following a common-school education had enjoyed the opportunity of attending the academy at South Adams. Here he became interested in medicine and when, later, he removed to Troy, New York, he entered the employ of a druggist of that city and continued his medical studies. Such was his industry and success that within a few years he was admitted to partnership in the business. The death of his bride in the first year of their married life and the return of a cousin who had traveled from Detroit to St. Louis on an Indian pony and who had been greatly impressed by the opportunities of the new country then just opening to settlement, turned the young man's thoughts toward the West. He closed out his business early in 1832 and invested in a stock of drugs and medicines which he shipped to Fort Dearborn. The journey was long and arduous, comprising a short trip by rail to Schenectady, then by canal boat to Buffalo, then by steamer to Detroit, by wagon to Niles, Michigan, and by lighter down the river to St. Joseph where he had expected to go by sailing vessel across the lake to Fort Dearborn. The captain of the schooner had, however, learned of the outbreak of cholera and refused to make the trip, so Carpenter and a friend engaged two Indians to tow them around the head of the lake in a canoe. At Calumet, one of the Indians was attacked by cholera, but the druggist-doctor prescribed for him and they pushed on until they were within sight of the fort, when the Indians refused to go further. The voyagers were



PHILO CARPENTER.* * Chicago Historical Society Photo.

Chicago's First Pharmacist.

* Section on Historical Pharmacy, A. PH. A., Miami meeting, 1931.

fortunate in finding a settler who owned an ox-team and he brought them and their trunks to the fort the following day.

This was July 18, 1832. The cholera was raging fearfully among troops and settlers, and medical aid was quite inadequate to cope with the situation. Carpenter engaged at once in ministering to the sick and dying. Fearless of the disease himself, he seemed to bear a charmed life. It was impossible in many cases to obtain the help of physicians and Chicago's first druggist did their work as necessity forced it on him.

When the shipment of goods arrived, Carpenter opened Chicago's first drug store in a log building on Lake Street, near the river. There was a great demand for drugs, especially quinine, and the business prospered almost from the beginning. In 1833 the town of Chicago was organized and among the 28 voters, 13 of whom

Courtesy of Chicago Historical Society.

South Water Street in 1834, now Wacker Drive, Chicago.

were candidates for office, we find our druggist, who, however, never sought or accepted office. The anticipated building of the Illinois and Michigan canal, though it was not actually begun until 1836, called attention to the young town and the population increased rapidly. Carpenter's business grew and he moved into more commodious quarters and enlarged his stock. His advertisement in a Chicago newspaper in 1835 lists not only a variety of drugs, chemicals, cosmetics and perfumery but also garden seeds, onion seeds, potatoes, leathers, stoves and castings, road scrapers, wagon boxes, plows and mill irons and maple sugar kettles. With unusual vision, Carpenter discerned in the small trading post, the embryo of a great metropolis. He invested all his earnings in real estate both in the town itself and in the country roundabout. But in the course of his business, Carpenter had become security for several friends and when the financial panic of 1837 came, he found his small fortune swept away. It is of interest to know that he scheduled all of his real

estate and allowed his creditors to select what they deemed a fair equivalent for their debt. They took 960 acres of farm land, 4 1/2 blocks in Carpenter's subdivision to Chicago, 1/2 block of the school section and 3 lots on Washington Street near the present site of the Chamber of Commerce, and the house and lot on LaSalle Street (his homesite), to satisfy the debt of $8500; property that not many years after was valued at more than $1,000,000. It is indicative of the fine character of the man that he faithfully carried out his agreement and the only criticism that he made of the settlement was to say, "I should have thought they might have left me my home." But with the revival of business Carpenter began to amass a new fortune. In 1842 he removed his drug store to 143 Lake Street. It was then known as the "Checkered Drug Store," so named from the black, white and red squares with which it was painted. In 1843 he sold it to Dr. J. Brinkerhoff and retired to devote his time to the care of his extensive real estate holdings. Carpenter took an active part in the religious life of the city. He was a charter member of the First Presbyterian Church but when this church declined to take a radical stand on the slavery question he left his friends and associates of twenty years and built, largely at his own expense, the First Congregational Church, which stood on the southwest corner of Washington and Green Streets. He was an ardent Abolitionist and his home was one of the stations of the "underground railway," which helped many slaves on their way to Canada and freedom in the '50s.

Although regarded as an extremist by many people Carpenter was not a disagreeable reformer and was greatly loved. E. O. Gale, the druggist-author of "Reminiscences of Early Chicago," says of him, "From the time Philo Carpenter came here until the grave closed over him, I never heard a person accuse him of saying or doing anything unbecoming in the high-minded Christian gentleman."

A public-spirited citizen, he took a leading part in affairs but was never prevailed upon to accept public office. He strongly opposed the sale of the school section, urging that only alternate blocks be sold. Had his advice been followed, the city of Chicago would be the richer by millions of dollars. He organized the first Sunday School and served as its superintendent. He was a deacon of the Congregational Church and was noted for his benevolence and philanthropy. He was one of the founders of the Chicago Eye and Ear Infirmary and of the Relief and Aid Society. He was one of the incorporators of the Chicago Theological Seminary and a generous supporter of the Chicago Historical Society. On his death, in 1886, he left a considerable part of his fortune to colleges, charitable organizations and religious institutions. The Carpenter School and Carpenter Street in Chicago were named for him.

UNIVERSITY OF ILLINOIS,
SCHOOL OF PHARMACY.

PHARMACY WEEK WINDOW DISPLAY.

Let the setting of your Window Display for Pharmacy Week be in keeping with the intent and purpose of the occasion—to impress the message of Pharmacy as a profession.

INTRODUCTION OF CHEMICAL PHARMACOLOGY AND THERAPEUTICS.*

BY CHARLES WHITEBREAD.

ANTIQUITY OF CHEMISTRY.

Among the writings of authors who have endeavored to establish the antiquity of chemistry we find many conclusions deduced from an ingenious interpretation of the mythological fables which are supposed to have been transmitted by the Egyptians, who, previous to the invention of letters, adopted this method of perpetuating their discoveries in natural philosophy. Thus, whenever Homer studiously describes the stolen embraces of Mars and Venus, they recognize some chemical secret, some combination of iron and copper, shadowed in the glowing ornaments of fiction. Lord Bacon conceived that the union of spirit and matter

The cut above with the ibis head is the Egyptian God of Wisdom. He is identified in Greek mythology as Hermes.

Courtesy of U. S. National Museum.

Ancient Prescriptions.

Five lines from Papyrus Ebers, said to be the work of Hermes Trismegistus with translations into hieroglyphic characters and English.

was allegorized in the fable of Proserpine being seized by Pluto as she was gathering flowers; an allusion which others say is rendered more curiously exact because oxygen given out by plants is absorbed by man and animals. By the same authority we are led to believe that the fable of Jupiter and Juno, by whose union the Spring showers were said to be produced, was meant to portray the production of water by the combination of its two elements, an opinion which is strongly supported by the fact that, in ancient mythology, the purer air, or ether, was always represented by Jupiter, and the inferior by Juno.

As we review the works of those who have made the history of chemistry, medicine or pharmacy, the subject of intensive study, we find Hermes Trismegistus

* Section on Historical Pharmacy, A. PH. A. Miami meeting, 1931.

(thrice-great), who lived about the time of Moses, mentioned as the first chemist. Hermes, the Greek, however, seems to be the same character as Thoth, the Egyptian God of Wisdom, from whom all the arts and sciences emanated. Thoth, it will be remembered, is credited with being the author of the hermetic books which regulated the medical practice of the ancient Egyptians, and from which there could be no deviation. According to Berdoe, the *Papyrus Ebers*, one of the oldest works on medicine and said to date from 1550 B.C., is "one of the number of medical books of Hermes Trismegistus."

Historians agree that alchemy, the search for the means of transmuting base metals into gold and the discovery of an elixir to prolong life, was the beginning of chemistry; that the word chemistry was derived from *chemi* (Black Land), the ancient name of Egypt; that the "black art" was an early name for alchemy because it was practiced in the Black Land; and that the first authentic account of alchemy appears to be an edict of Diocletian about 300 A.D., in which a diligent search is ordered to be made for all the ancient books which treated of the art of making gold and silver in order that they might be destroyed.

It seems that the ancients were ignorant of the internal use and administration of the metals, with the exception of iron, although they frequently used them in external applications. Oribasius and Aetius added "lithargyrium" to several plasters. Whether antimony is the stimmi or stibium of the ancients is a matter of conjecture. However, this stibium was never used except as an external astringent, especially for the purpose of contracting the eyelids, and of thereby making the eyes appear very large, which has been considered from the most remote antiquity as a feature of great beauty. This practice appears also to have been followed by the Jews, for Jezabel (ii Kings, chapter ix, verse 30) is said to have painted her eyebrows to make the eyes appear big.

With whatever ingenuity and success the antiquity of chemical knowledge may be advocated, as it relates to the various arts of life, it must be admitted that not the most remote trace of its direct application to pharmacy can be discovered in the works of the medical writers of Greece and Rome. The process of distillation is not even mentioned by Hippocrates or Galen. The waters of different plants as described by later authors are to be understood, as we are informed by Gesner, merely as simple decoctions and not as the products of any chemical process; while the essences of Dioscorides, Galen and others, were only the extracts produced by the evaporation of infusions.

Upon the downfall of the Roman Empire, all the arts, the sciences and literature, were overwhelmed in the general wreck, and the early Mahommedans endeavored to destroy every record of the former progress of the human mind. It is not a little extraordinary that the same people were destined at a more advanced period to rekindle the light of letters which they had taken such pains to extinguish, and to become the inventors and cultivators of a new science, chemistry, boundless in its views and inexhaustible in its applications. The pharmaceutical profession was particularly selected as an object of reward and encouragement, and we may say that materia medica is more indebted to the zeal and industry of the Arabians than to the learning of the Greeks or to the refinement of the Romans. From this source we obtained manna, cassia, senna and rhubarb, and many plants and aromatics among which may be mentioned musk, nutmeg, mace and cloves.

We are also indebted to the Arabians for our knowledge of camphor. They are also the first upon record who speak of sugar, and sugar candy, extracted from the sugar cane, which they called honey of cane. They also ushered into practice syrups, juleps and conserves. It is well to remember, however, that they introduced many absurd medicines. Gold, silver, bezoars and precious stones were added to the materia medica, and extraordinary virtues were attributed to them.

It is not surprising that the Arabians' first researches into the nature of bodies should have raised a hope, and excited a belief, that the baser metals might be converted into gold. They conceived that gold was the metallic element in a state of perfect purity, and that all the others differed from it in proportion only to the extent of their individual contamination, and hence the origin of the epithet *base* as applied to such metals. This hypothesis explains the origin of alchemy, but we are always informed that the alchemists expected, by the same means that they hoped to convert the baser metals into gold, to produce a universal remedy calculated to prolong indefinitely the span of human existence.

The earliest alchemist whose name has reached posterity is Geber, said to have been an Arabian prince of the 7th century but concerning whose identity much doubt is now expressed, whose language was so proverbially unintelligible that one author supposes the word gibberish or geberish to have been derived from this circumstance. At that time the processes of alchemy were always veiled in the most enigmatic and obscure language, and sometimes were expressed by a figurative or metaphorical style of expression. For example, Geber exclaims, "Bring me the six lepers that I may cleanse them," and by which it is said he implied the conversion of the six metals (silver, mercury, copper, iron, tin and lead), the only ones then known, into gold.

From the works of later alchemists it also appears that they constantly represented gold as a sound, durable and healthy man; the imperfect metals as diseased men; and that the means or processes by which the latter were to be transmuted into the former, they designated by the name of medicines. Hence those who were anxious to delve into the secrets of these magicians or *adepts*, as they called themselves, with but meager knowledge of their language, supposed that these descriptions were to be understood in a literal sense, and the imperfect metals might be changed into gold, and the bodies of sick persons into healthy ones by one and the same chemical preparation.

Many years elapsed before the application of chemistry became instrumental in the advancement of pharmacy. Rhazes and Avicenna, celebrated Arabian physicians and pharmacists of the 10th and 11th centuries, were the first who introduced pharmaceutical preparations into their works, or made any improvement in the mode of conducting pharmaceutical processes. Rhazes taught the external use of arsenic, mercurial ointments and copper sulphate, and the internal use of brandy, niter and borax. Avicenna describes, particularly, the method of conducting distillation. He mentions, also, for the first time, three mineral acids, and distinguishes between vegetable and mineral alkalies, and he names distilled water of roses, sublimed arsenic and corrosive sublimate.

CHEMICAL PHARMACOLOGY AND THERAPEUTICS.

Early in the 13th century, Roger Bacon, a Franciscan monk, of Westminster

Abbey, one of the first to adopt Arabian methods and transplant them in the West, laid the foundation of chemical science in Europe. He made such prodigious chemical experiments at Oxford and Paris "that none could be convinced to the contrary but that he dealt with the devil." As the result of this he was excommunicated and imprisoned ten years. In his small treatise *De Mirabili Potestate Artis et Naturæ*—one of his 18 books on alchemy—he begins by pointing out the absurdity of believing in magic, necromancy, charms and similar notions which were then universally prevalent. He stated that many of the things which were then considered supernatural were merely so because mankind in general was unacquainted with natural philosophy. Wood, in his *History of the University of Oxford*, says that Roger Bacon was accounted the fourth in order of the chief chemists the world had ever produced. He gave Hermes Trismegistus first place and Geber second.

Bacon was succeeded at the end of the same century by Arnold de Villanova, a Frenchman, who was the first to recommend the distilled spirit of wine, impregnated with certain herbs, as a valuable remedy, from which we may date the introduction of tinctures, although Thaddæus, a Florentine, who died in 1270 at the age of eighty, highly commended the virtues of the spirit of wine yet he never used it as a solvent for active vegetable matter. Villanova played a great part in introducing chemical preparations into medicine. He is one of the few Latin alchemists whose extant writings are genuine. By the end of the 13th century chemistry had added considerable power to medicine and pharmacy.

Johann Thölde, who wrote as Basil Valentine, a German Benedictine monk, led the way to the internal administration of metallic medicine by a variety of experiments, about the middle of the 15th century, on the nature of antimony, and in his "*Currus Triumphalis Antimonii*" he described a number of combinati of that metal. It was said that he was extremely unfortunate in his first experiments upon his collaborators, many of whom he injured or killed. To Basil Valentine we are indebted for the discovery of the volatile alkali, and of its preparation from sal ammoniac. He also first used mineral acids as solvents, and noticed the production of ether from alcohol. He seems also to have understood the virtues of iron sulphate for he says, when internally administered, it is tonic and comforting to a weak stomach, and that externally applied it is astringent and styptic.

Paracelsus (1493–1541), or as he terms himself, Philippus Aureolus Theophrastus Bombastus Paracelsus de Hohenheim, of Switzerland, was the man destined to produce a greater revolution in medicine and pharmacy, and a more extensive change in medical and pharmaceutical opinions and practice, than any man who appeared since the days of Galen. He declared that antimony was not to be equalled for medicinal virtue by any other substance in nature. He used mercury without reserve, and appears to have been the first to administer it internally, for although Avicenna asserted that it was not so poisonous as the ancients had imagined, yet he did not attribute to it any virtues. His advocacy of numerous other mineral remedies gave impetus to the preparation of new medicines and considerably enlarged the scope of pharmacy. The professorship at Basel, which Paracelsus accepted in the year 1527, is said to have been the first established in Europe for the promotion and dissemination of chemical science. He taught that chemistry was to be employed, not in making gold, but for the preparation

of medicines, and he instructed physicians to give tinctures in place of the elaborate polypharmaceutical concoctions which were popular in his time. Paracelsus rendered important services to mankind when he opposed the bigotry of his day, and became the "founder of chemical pharmacology and therapeutics."

By the beginning of the 17th century a strong sentiment in favor of chemicals had been introduced, and the merited success which attended their use soon kindled a more general enthusiasm in their favor. Chemistry now took possession of the schools, and was gradually grafted into the theory and practice of medicine and pharmacy. We cannot but be struck by the tenacity with which chemicals retain their place in the pharmacopœias of the world, or by the new and powerful remedies which chemistry has introduced.

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Interior of the Denny Brann Pharmacy—Des Moines, Ia.

The prescription department may be seen through the openings; the exterior of this pharmacy is shown elsewhere in this issue. Physicians and other patrons have expressed appreciation of this venture and Mr. Brann is pleased with its success.

PROFESSIONAL PHARMACY. III.*

BY C. B. JORDAN.

In the two former studies of professional pharmacy (JOURNAL A. PH. A., 18 (1929), 1170–1176, and 19 (1930), 870–874). I was primarily interested in determining the number of prescriptions compounded annually, the date of opening of the store, location of stores, etc. In this study I was interested in determining the type of work done in professional pharmacy. Believing that our colleges must soon take cognizance of this special type of work and therefore should have information regarding the demands made upon the operator and the clerks in such a pharmacy, I endeavored to secure such information by means of a questionnaire, which I will discuss later.

When asked what I meant by a "professional pharmacy" I have usually answered that it was a pharmacy in which the only operations were prescription compounding and filling doctors orders. Obviously this classification is not satisfactory because many commercial stores are doing a larger prescription business than a number of purely professional stores. I know of no classification that is entirely satisfactory and therefore an arbitrary one was selected. It is this: "Any drug store the sales of which from prescription compounding and filling doctors orders amounts to fifty per cent or more of the total sales of the store is a 'professional pharmacy.'" I fully realize the shortcomings of such a classification but believe that it is as good as any that can be made and that it will answer for the purpose of this study.

Through the assistance of a large manufacturing company, I was able to secure a fairly accurate list of all such stores in the United States and I was surprised to find that there were three hundred and fifty-three such stores. They are distributed in the several states as follows: Alabama 3, California 34, Colorado 2, Delaware 1, District of Columbia 10, Florida 3, Illinois 42, Indiana 5, Iowa 5, Kansas 6, Kentucky 2, Louisiana 2, Maryland 2, Massachussetts 5, Michigan 31, Minnesota 7, Missouri 18, Mississippi 2, Nebraska 5, New Jersey 16, New York 37, Ohio 27, Oklahoma 3, Oregon 7, Pennsylvania 16, Rhode Island 4, Tennessee 7, Texas 10, Washington 15, West Virginia 2, Wisconsin 17, Utah 4. Without doubt this list is not entirely correct, but, I believe, it is the best that could be secured without a great deal of labor and expense. In fact, it was a rather expensive job for the manufacturing house to perfect the present list of stores.

Each store was written the following letter:

May 12, 1931

To: Professional Pharmacists of the United States.

From: C. B. Jordan.

Re: Development of Professional Pharmacy.

You have been kind enough to furnish me information for two addresses which have appeared in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION (see Vol. XVIII, No. 11, November 1929, and Vol. XIX, No. 8, August 1930). These addresses have aroused considerable interest in the subject of Professional Pharmacy and I have been requested by the ASSOCIATION to continue this study.

* An illustrated address before AMERICAN PHARMACEUTICAL ASSOCIATION, Second General Session, Miami, Fla., July 30, 1931.

I am enclosing a blank that I have endeavored to simplify as much as possible and, if you will give me the information requested on this blank, I shall deeply appreciate it. I am very sure that American Pharmacy will also appreciate a report of the results. You will note that you need not sign the report if you do not wish. In all my work I have carefully protected the information that has been given me and I will do so in this case.

I have tried to simplify this report so that you could make it out in a few minutes and I judge that your interest in the development of Professional Pharmacy will cause you to take the time and trouble necessary to do it.

Trusting that you will do this and sincerely thanking you in advance for the favor, I am

Sincerely yours,

C. B. JORDAN, *Dean.*

With each letter was enclosed the following questionnaire sheet:

Prescription Items.	No. Prepared by Pharmacist per Each 100 R's.	No. "Ready-Made" per Each 100 R's.
Tablet triturates		
Pills		
Soft elastic capsules		
Enteric coatings		
Wafers		
Hypodermic tablets		
Suppositories		
Emulsions		
Eye solutions		
Ophthalmic ointments		

AVERAGE FREQUENCY OF CALLS FOR THE FOLLOWING PER MONTH.

	Prepared by Pharmacist.	"Ready-Made."
Stains and dyes		
Physiological salt solutions		
Arsphenamine solutions		
Intravenous solutions		
Media		
Ampul solutions		
Sterilized gauze—swabs—bandages		

AVERAGE FREQUENCY OF CALLS TO PERFORM PER MONTH.

Urinary analysis	
Sputum analysis	
Feces analysis	
Blood counts	
Incubations	
Autogenous vaccines	
Gastric analysis	

Average price charged for prescriptions.....

Remarks:

Return before June 1st to:
Dean C. B. Jordan,
Purdue Univ. School of Pharmacy,
West Lafayette, Indiana.

Reported by:.....
.....
.....
.....

A follow-up letter was later sent to all of those who did not send in data on first request.

I received ninety-one replies, but two were too late for use in this paper. Of this number twenty-three did not fully understand the first part of the questionnaire and their replies will be treated separately. Sixty-four professional pharmacists submitted data on first part as asked for and an analysis of this data follows:

Tablet Triturates.—Eighteen, or 28%, of the professional pharmacists make tablet triturates, the largest per cent of store-made tablet triturate prescriptions was 10, and the average per cent of store-made tablet triturate prescriptions for the total number of stores is one-half. Evidently store-made tablet triturates is not an important item in these professional pharmacies. Fifty-eight, or 90.67%, sold manufactured tablet triturates, the largest per cent of manufactured tablet triturate prescriptions was twenty, the average per cent of manufactured tablet triturate prescriptions for the total number of stores reporting was 6.4 and the average number of prescriptions for both ready-made and store-made tablet triturates was 7. We must continue to teach the manufacture and advantage of tablet triturates but we must expect that our graduates will rarely be called upon to make them in the store. A competent pharmacist should know how to make any pharmaceutical preparation, even though he be called upon to do it only "once in a life time." However, when only 7 prescriptions in 100 are for tablet triturates and only $^1/_2$ in each 100 is for store-made tablet triturates, the average prescription clerk may expect to have only a few chances to show his dexterity in this line.

Pills.—We are often called "pill rollers" and I have sometimes wondered whether we can rightfully claim that title to-day. Let us see. Forty-four, or 68.8%, of the professional pharmacists still "roll their own" once in a while. The largest percentage of prescriptions for store-made was 10, and the average percentage for all the stores reporting was 1.5%. Fifty-seven, or 90%, of the professional pharmacists sold manufactured pills. It seems unusual that any prescription store would not sell manufactured pills, but 7 such stores reported no sales. The largest per cent of manufactured pill prescriptions was 50 and the average for all the stores reporting for manufactured pills was 5.6 and the average for both manufactured and store-made pill prescriptions was 7.1 Evidently pill medication is still quite popular, for 7.1 out of every 100 prescriptions were for pills, either manufactured or store-made. We must continue to teach the value of pill medications and how to prepare them.

Soft Elastic Capsules.—Ten out of sixty-four, or 1.6%, of the professional pharmacists make soft elastic capsules. The largest percentage of prescriptions for store-made S.E. capsules was 5 and the average percentage for those reporting that they made them was 1.75, but the average for all stores reporting was 0.27%. With only 0.27 of one out of every 100 prescriptions for store-made S.E. capsules, the average clerk will have little use for the knowledge of how to prepare them. Fifty-five, or 86%, of the professional pharmacists reported that they sold ready-made S.E. capsules. The largest percentage of ready-made S.E capsule prescriptions was 20 and the average percentage was 2.6. The average percentage of all kinds of S.E. capsule prescriptions was 3. S.E. capsule medication is still in vogue but only about one-half as popular as pill medication.

Enteric Coatings.—There is quite a demand for a good enteric coating and at present none seems to have been found; therefore, I was interested in the reports on this item. Twenty-nine, or 45%, of the professional pharmacists make their own enteric coatings, but the percentage of store-made enteric coating prescriptions for all pharmacists was only 1, while one reported that 15 out of every 100 prescriptions was for his own enteric coatings. Fifty-four, or 84.3%, of the pharmacists reported that they sold ready-made enteric coatings. The largest percentage of ready-made enteric coating prescriptions was 10 and the average was 2.3. The average percentage of prescriptions for both kinds of enteric coatings was 3.3. Evidently store-made enteric coatings are very popular. I am convinced that a completely satisfactory and convenient method of enteric coating that can be used by the average retail druggist is a boon much to be desired. Here is a good research problem for some ambitious young pharmacist.

Wafers.—Twenty-one, or 33%, of the professional pharmacists make their own wafers, but the average percentage of store-made wafer prescription is only 0.44. Twenty, or about 33%, of the pharmacists sell manufactured wafers. The average percentage of wafer prescriptions of both manufactured and store-made was only 0.8. It is very evident that wafer medication is not very popular; however, one pharmacist reported that 5 out of every 100 prescriptions was for store-made wafers, showing that he had "specialized" on that item.

Hypodermic Tablets.—Four of the sixty-four pharmacists occasionally made their own hypodermic tablets, and one reported that 5 out of every 100 prescriptions was for his own make of hypodermic tablets. Fifty-nine of 92.2% of the pharmacists reported that they sold manufactured hypodermic tablets and three reported that 10 out of every 100 prescriptions were for manufactured hypodermic tablets. The average percentage of H.T. precriptions, both manufactured and store-made, was 4. Hypodermic tablets present one form of medication that is prepared almost entirely by the manufacturer and we can readily understand why this is true.

Suppositories.—With suppositories, emulsions, eye solutions and ophthalmic ointments the pharmacist seems to have "come into his own" or, better still, seems to have retained his prestige for manufacturing. Fifty-four, or 84+%, of the professional pharmacists make suppositories and one reported that 20 out of every 100 prescriptions were for store-made suppositories. The average percentage of store-made suppository prescriptions was 2.75. Fifty-one, or about 80%, of the professional pharmacists sold ready-made suppositories, and one reported that 15 out of every 100 prescriptions was for ready-made suppositories. There were reported more store-made suppositories than ready-made ones. Evidently we must emphasize the manufacture of good suppositories, because our students will surely be called upon to make them and perhaps very often. The average percentage of suppository prescriptions, both store-made and ready-made, was 3.2. It is evident that this form of medication has not lost its popularity, especially in certain ailments.

Emulsions.—Forty-seven, or 73.4%, of the professional pharmacists make emulsions, and one reported that 15 out of every 100 prescriptions were for store-made emulsions. The average percentage of store-made emulsion prescriptions was 2.1. Only thirty-eight, or 60%, of the professional pharmacists sell ready-made emulsions. However, one reported that 12 out of every 100 prescriptions were for ready-made emulsions. The average percentage of ready-made emulsion

prescriptions was 1.3, while the average percentage of emulsion prescriptions of both kinds was 3.6+. The emulsion is still a very popular form of medication and the pharmacist makes more emulsions than he buys for prescription work. A quick, easy way of making emulsions is still to be found and, I believe, that considerable improvement can be made in our emulsifying agents.

Eye Solutions.—Fifty-nine, or 92.2%, of the professional pharmacists report that they make eye solutions, and one reported that 20 out of every 100 prescriptions were for eye solutions. The average percentage of store-prepared eye-solution prescriptions was 9.5. This is the largest average percentage yet found in this study. When we realize the care that must be taken in preparing a solution for the eyes, we are impressed with the fact that colleges of pharmacy should place emphasis upon this phase of prescription compounding. Only 28, or 43.7%, of the pharmacists sell ready-made eye solutions and the average percentage of ready-made eye-solution prescriptions was 0.8, while the average percentage of eye-solution prescriptions, both ready-made and store-made, was 10.3. This means that more than 10 out of every 100 prescriptions were for eye solutions.

Opthalmic Ointments.—Forty-four, or 70%, of the pharmacists prepare ophthalmic ointments, and the average percentage of store-made ophthalmic ointment prescriptions was 1.5, while one pharmacist reported that 10 out of every 100 prescriptions was for store-made ophthalmic ointments. Fifty-two, or 82%, of the pharmacists reported that they dispensed ready-made ophthalmic ointments, and one reported that 20 out of every 100 prescriptions were for ready-made ophthalmic ointments. The average percentage of ophthalmic ointment prescriptions, both ready-made and store-made, was 5.5.

An analysis of this part of the study shows that store-made suppositories, emulsions, eye solutions and ophthalmic ointments are popular and that the wide-awake pharmacist can develop this part of his dispensing. Store-made pills are fairly popular, while store-made wafers, tablet triturates, soft elastic capsules, hypodermic tablets and enteric coatings are less popular. It is interesting to note, however, that some pharmacists have made these latter methods of medication popular, except in the case of hypodermic tablets and wafers. Wafers are not popular whether store-made or ready-made, but manufactured hypodermic tablets are popular. A graduate pharmacist should know how to make all of these forms of medication even though he is seldom called upon to prepare some of them. The emphasis, however, should be placed upon pills, suppositories, emulsions, eye solutions and ointments.

In the second part of the study an effort was made to determine how many times a month a pharmacist is called upon to dispense stains and dyes, physiological salt solutions, arsphenamine solutions, intravenous solutions, media, ampul solutions and sterilized guaze, swabs, etc. Here again the pharmacist was asked to specify how many times per month he dispensed store-made and ready-made preparations of these medicinal agents. All understood this part of the questionnaire and therefore 89 reports instead of 64 are considered.

Stains and Dyes.—Fifty-four, or 60.6%, of the reporting pharmacists dispensed store-made stains and dyes. Some are doing quite a business in this work, as they report 360, 250, 175, 150 and 100 calls per month for store-made stains and dyes. The average number of calls per month for store-made stains and dyes was

26.6. Thirty-four, or 38% of the pharmacists dispensed ready-made stains and dyes, and one reported that he had 300 calls per month for these. The average calls per month for ready-made stains and dyes was 10.8, while the average calls per month for stains and dyes, both ready-made and store-made, was 37.4. Evidently the wide-awake pharmacist in certain localities can develop quite a business in stains and dyes of his own make.

Physiological Salt Solutions.—Fifty-nine, or 65^{+}%, of the pharmacists prepare their own physiological salt solutions, and some do a good business in this, as they report 900, 300, 200 and 150 calls per month for them. The average calls per month for store-made physiological salt solutions was 28.4. Seventeen, or 20^{-}%, of the pharmacists sometimes dispense ready-made physiological salt solutions, but the calls per month are few. The average number of calls per month for physiological salt solutions, store-made and ready-made was 30. It is evident that the preparation of physiological salt solutions is an important part of a professional pharmacist's job. Our colleges should thoroughly instruct their students in the technic of preparation of these solutions.

Arsphenamine Solutions.—Only twenty-seven, or 30.3%, of the pharmacists prepare their arsphenamine solutions, but some pharmacists do a nice business in this as they report 750, 90 and 90 calls per month for them. The average number of calls per month for store-prepared arsphenamine solutions was 13. Only twenty-six, or 29.2%, of the pharmacists dispense ready-made arsphenamine solutions but, again, some of them do a nice business in this, as they report 500, 300 and 100 calls per month for them. The average calls per month for arsphenamine solutions, ready-made and store-made was 32. Some physicians have informed me that if the pharmacists were prepared to make their arsphenamine solutions satisfactorily they would be glad to turn that business over to them. It is understood, of course, that the salt is dissolved in sterile water *immediately* before being used and therefore the pharmacist should *make sure that the solution will be used at once* or else dispense the salt, sterile water and sterile containers for the physician to prepare the solution at the time it is administered. More emphasis should be placed upon the technic of preparing arsphenamine solutions and our colleges should awaken to this important, and I fear much neglected, part of their instruction.

Intravenous Solutions.—Thirty-one, or 35%, of the pharmacists prepare intravenous solutions, but some do quite a business in this, as they report 150, 150 and 100 calls per month. The average number of store-made intravenous solutions per month was 9. Thirty-nine, or 43.7^{+}%, of the pharmacists sell ready-made intravenous solutions, and the calls per month are many, as three reported 9000, 1000 and 700, respectively. The average number of calls per month for ready-made intravenous solutions was 128. The pharmacist seems to be turning over to the manufacturer the preparation of intravenous solutions.

Media.—Only one pharmacist made media and then only twice a month. Twenty pharmacists sold ready-made media and two of these had 250 calls each per month. Media is not a popular item in professional pharmacies.

Ampuls.—Fifteen, or 16.8%, of the pharmacists dispensed their own ampuls, and one reported 500 calls per month for these. The average number of calls per month for store-prepared ampuls was 10. This indicates that the average business of store-prepared ampuls is very small. Fifty-one, or 57^{+}%, of the pharmacists

sold ready-prepared ampuls and in some cases the business was large, as 9000, 5000, 1500, 1200, 1000 and 500 calls were reported per month. The average number of calls per month for ready-made ampuls was 262. The professional pharmacist is doing a nice business in ready-made ampuls.

Sterilized Guaze, Swabs and Bandages.—The purpose of this question was to determine whether the pharmacists were preparing any of these. Three reported that they prepared swabs, one reported 150 calls per week and one "a great many" per week. Since only three are preparing this material, its importance is small. Of course, all reported the sale of manufactured material.

The third part of the questionnaire covered laboratory work and the answers were disappointing because they indicated that only a few very professional pharmacists attempt to do any technical laboratory work for their physicians.

Urine Analysis.—Twenty-three pharmacists reported that they did urine analysis, one reporting 3000 analyses per month. The average number of urine analyses per month for those who reported was 154. This figure does not mean much, because of the 3545 analyses reported per month one pharmacist reported 3000.

Sputum Analysis.—Eight pharmacists reported that they did sputum analysis and one reported 150 analyses per month.

Feces Analysis.—Five reported that they did feces analysis and one reported 100 analyses per month.

Blood Counts.—Five reported that they did blood counts and one reported 100 blood counts per month.

Incubations.—Two reported that they did incubations.

Autogenous Vaccines.—Two reported.

Gastric Analysis.—Two reported.

Smears.—One reported that he did 28 smears per month. One pharmacist sent in an unusual report on laboratory analysis as follows:

Urine Analysis	3000 per month	Gastric Analysis	10 per month
Sputum Analysis	150 per month	Mother's Milk	10 per month
Feces Analysis	100 per month	Blood Sugar	200 per month
Blood Counts	200 per month	Smears	50 per month
Incubations	50 per month	Wasserman's	50 per month
Autogenous Vaccines	20 per month		

Such a report needs no comment. If this report and one other is taken from the average, there is very little left. In other words, only one or two of the pharmacists who reported are doing anything in technical laboratory analysis. I am convinced that this is a much neglected part of the work of a professional drug store. I am cognizant of the fact that there are laboratories in some cities to which this work is sent, but I still believe that the wide-awake, well-prepared pharmacist should be doing a great deal of it. Here is plenty of opportunity to develop. It will also offer a profitable side activity to the young man who is trying to establish himself as a professional pharmacist.

Average Price of Prescriptions.—Only 84 pharmacists reported average price that I could interpret for this study. One or two refused to divulge their prices and a few reported in such a way I could not use their figures. The average price ranges from $0.60 to $1.53. They were reported as follows: One at $0.60, one at

$0.71, five at $0.75, one at $0.80, eleven at $0.85, six at $0.90, four at $0.95, fifteen at $1.00, six at $1.02 to $1.07, ten at $1.10, four at $1.15, one at $1.20, eleven at $1.25, one at $1.30, one at $1.35, two at $1.40, one at $1.45, two at $1.50 and one at $1.53.

The average price as reported is $1.02. With a variation from $0.60 to $1.53, the latter figure being more than two and a half times the former, it is evident that these pharmacists are serving quite different classes of trade. I can hardly understand an average price as small as $0.60 and an average of $1.53 indicates a high class neighborhood or unusual expensive ingredients, or both.

Some interesting comments were received with the reports. Many times pharmacists reported that they did not attempt to do the laboratory work because there was a regular technical laboratory or the work was sent to the State Board of Health laboratories. Some of the interesting comments are as follows:

"I have stopped all this business because it slows up the prescriptions; I send them to a laboratory."

"We have a laboratory in the building but I do believe that a professional pharmacist could take over this work profitably."

"We do nothing but compound prescriptions, but found that if we had the knowledge of making different analyses, we would get quite a good many calls for same."

DATA FROM SIXTY-FOUR PROFESSIONAL PHARMACISTS.

	Prepared by Pharmacist.			Ready-Made.			
Preparation.	% Making.	% of R's for.	Max. % of R's for.	% Selling.	% of R's for.	Max. % of R's for.	Average % of R's for both.
Tablet triturates	28.0	0.5	10	90.7	6.4	20	7.0
Pills	68.8	1.5	10	90.0	5.6	50	7.1
S. E. capsules	1.6	0.27	5	86.0	2.6	20	2.87
Enteric coatings	45.0	1.0	15	84.3	2.3	10	3.3
Wafers	33.0	0.44	..	33.0	..	5	0.8
Hypo. tablets	6.0	..	5	92.2	..	10	4.0
Suppositories	84.0	2.75	20	80.0	0.55	15	3.2
Emulsions	73.4	2.1	15	60.0	1.3	12	3.4
Eye solutions	92.2	9.5	20	43.7	0.8	..	10.3
Opth. ointment	70.0	1.5	10	82.0	4.0	20	5.5

DATA FROM EIGHTY-NINE PROFESSIONAL PHARMACISTS.

	Prepared by Pharmacist.			Ready-Made.			
Preparation.	% Making.	Av. calls per mo.	Max. calls per mo.	% Selling.	Av. calls per mo.	Max. calls per mo.	Average calls for both per month.
Stains and dyes	60.6	26.6	360	38.0	10.8	300	37.4
Phys. salt sol'n.	65.0	28.4	900	20.0	..	..	30.0
Arsphen. sol'n.	30.3	13.0	750	29.2	..	500	32.0
Intrav. sol'n.	35.0	9.0	150	43.7	..	9000	128.0
Media	1 only	2.0	2	22.0	..	250	...
Ampuls	16.8	10.0	500	57.0	26.8	9000	...
Swabs, etc.	3 only	..	150	..	..	..	...

"We think the druggists are somewhat remiss in not laying more stress upon laboratory work, and their qualifications to handle it properly. We are quite well aware that in a number of communities where the druggist has put in the necessary equipment and featured this line of work, it has materially increased his prestige with the medical profession."

"All clinical examinations are done in our clinical laboratory by capable technicians; sterile sheets, gowns, caps, binders, dressings, swabs, first aid cabinets and supplies are prepared in our 'Sterile Goods Department;' pharmacists in ℞ Department prepare prescriptions, sterile solutions of glucose, stains for intravenous and bacteriological use, distilled water and varied solutions for the physician's office use as well as for his patients."

The difference in the type of prescriptions called for in different localities is well illustrated by the following.

"I might state we have two stores and the nature of our prescription work is entirely different in the two, depending upon the doctor supporting them. One store fills many eye and ointment prescriptions, while the other fills many stomach prescriptions."

Another interesting comment is as follows:

"We fill a great many glandular prescriptions and these, to be effective, must be enteric-coated. We have proved that without enteric coatings glandular prescriptions are inert."

In conclusion I sincerely hope that the data presented here may be of some value to those who are interested in opening professional drug stores, to those who already operate such stores, and to the colleges of pharmacy.

I wish to take this opportunity to sincerely thank all of the pharamicsts who so kindly submitted data on which this paper is based.

REPORT ON MARYLAND PRESCRIPTION COUNT.*

BY ROBERT L. SWAIN.

The Maryland prescription survey was undertaken after Dr. E. N. Gathercoal, chairman of the National Formulary Revision Committee, had carried out some interesting investigations to determine the number of prescriptions filled per capita in the drug stores of the country. Dr. Gathercoal confined his work to cities adjacent to Chicago, and thus the data which he compiled applied only to urban population in a much restricted area.

Maryland was selected, primarily, because Pharmacy has in that state an organization peculiarly fitted to carry out any investigation of a pharmaceutical nature. Pharmacy is represented in the membership of the State Department of Health, and the enforcement of the pharmacy laws is carried on by the Department of Health as a part of the public health program of the state. The pharmacy law, pure food and drug law, poison law and other laws of specific interest to pharmacists are published jointly by the Board of Pharmacy and the Department of Health. The director of the Bureau of Chemistry of the Department of Health is also a pharmacist. The director of pharmacy law enforcement and the inspectors actually engaged in field duty are registered pharmacists. The Maryland prescription survey was undertaken simply to measure the public health value of pharmacy, in so far as this was possible from a close study of one phase of pharmaceutical practice. As pharmacy has a firm place in the public health program of the state, the state is interested in ascertaining the extent and scope of all forms of pharmaceutical service.

In connection with this survey, it is well to point out that in some important respects Maryland is accepted as the typical American state. Maryland is especially important in statistical studies because it represents an average cross section of the country as a whole. According to data compiled by the Bureau of the Census, it is ascertained that fifty-six per cent of the people of the United States are classified as urban. In Maryland this figure is a bit higher, and in this state fifty-nine per cent

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* Presented before Joint Session, Scientific Section and Section on Practical Pharmacy and Dispensing, A. PH. A., Miami meeting, 1931.

of the people are classified as urban.* The figure for the United States as a whole is fifty-six, while for Maryland it is fifty-nine. Maryland, when regarded from this point of view, is peculiarly the typical state. The survey in Maryland was thus regarded with favor because of the organization by which it could be promptly carried out, and also because of the relationship of the population of the state to the population of the country as a whole.

The Maryland prescription survey was carried out by officials of the Maryland State Department of Health, and resulted in a complete compilation of all physicians' prescriptions compounded and dispensed by the pharmacists of the state in 1930. Each drug store was personally visited. The purpose of the survey was explained, and every care was taken to have the work as accurate as possible. In many instances the prescription files were examined and checked by the pharmacist and the representative of the Department of Health so that errors might be avoided. Prior to undertaking the survey the whole project was discussed with officials of the Bureau of the Census for the purpose of having the work conform to approved statistical practice. My office directed the work and kept in closest touch with it as the work developed. I believe it can be accepted as accurate to a very high degree.

Reports were received from 618 of the drug stores of the state, representing 61/67 of the total. From the number of prescriptions actually accounted for by these stores, both new and refilled, factors were obtained by which the total number of prescriptions compounded by all of the drug stores of the state was established. The whole effort received the coöperation of the pharmacists, and full and complete assistance was rendered wherever possible.

I have selected a few salient points in the survey for presentation, which, I believe, will be sufficient to show the extent and importance of prescription practice.

Number of Drug Stores.	
Baltimore	452
Counties	215
Total	667

Population of State.	
Baltimore	804,874
Counties	826,652
Total	1,631,526

Total Number of Prescriptions Filled in 1930.	
New	2,344,058
Refilled	1,003,168
Total	3,347,226

Average Number of Prescriptions per Store.	
Baltimore	5373
Counties	4189
State Average	5018

Percentage of Prescriptions Refilled.	
Baltimore	31.5
Counties	41.0
State Average	34.2

Percentage of Narcotic Prescriptions.	
Baltimore	18.4
Counties	14.7
State Average	17.4

Prescription per Person Per Year.	
Baltimore	3.00
Counties	1.10
State	2.00

Population—Store—Ratio.	
Baltimore	1781
Counties	3845
State	2446

Percentage of Prescriptions Filled.	
Baltimore	74
Counties	26

The following classification will serve to present the data somewhat differently:

In the state there were:	Total.
9 stores filling more than 20,000 prescriptions	253,991
45 stores filling from 10,000 to 20,000 prescriptions	559,832
138 stores filling from 5000 to 10,000 prescriptions	928,998
255 stores filling from 2000 to 5000 prescriptions	810,479
77 stores filling from 1000 to 2000 prescriptions	114,105
94 stores filling less than 1000 prescriptions	50,310

It would be possible to present other interesting facts resulting from the survey. For instance, in two cities about the same size and having the same number of drug stores, the number of prescriptions compounded in the one was five times that in the other. It was shown also that the number of prescriptions filled in stores in the same section of Baltimore differed within wide limits. In two stores located in the same block, the prescriptions practice in one was twelve times that in the other. In one city of several thousand people, one drug store compounded one-fourth of the total number of prescriptions, and in this city there are seventeen other drug stores. It is apparent, I believe, that the public is as discriminating in the selection of pharmacists for professional work as it is in the selection of any other professional service. It is also apparent that a substantial professional pharmaceutical practice is possible to all who really deserve and seek to acquire it. In virtually every instance where a small prescription practice was met with, the energies of the store were directed toward developing its mercantile and commercial aspects. This, of course, did not always hold true of rural stores, as dispensing by physicians would reduce the prescription average, but even here a substantial prescription practice is met with in those cases where such a practice has been one of the store's objectives. My own conclusion, based upon the facts of this survey, is that the status of each pharmacy results from the policy of the store. The store is predominantly professional or predominantly commercial as the pharmacist himself determines.

In order to ascertain whether the prescription figures for Maryland are correct for the country as a whole, the survey will be extended. Under the suggestion of the Bureau of the Census, similar surveys will be undertaken in certain designated counties in Florida, Indiana and the State of Washington. It is thought that if these counties uphold the facts established here, then the Maryland figures may be applied to the country as a whole. In the event the Maryland figure is not borne out, the survey will be extended to other sections of the country, until a sufficiently large amount of data is established to afford constant factors.

However, assuming for the purpose that the Maryland figure is correct, let us estimate the extent of prescription practice in the United States. Accepting the figure for Baltimore as correct for the 68,320,000 people of the United States, living under urban conditions, and the figure for the counties of Maryland as correct for the 53,680,000 people living under rural conditions, then we reach the impressive total of 263,008,000 as the number of prescriptions compounded and dispensed by the pharmacists of America during a single year.

This figure is especially significant as it is strong contrast with a statement made by Mr. Wroe Alderson, chief business specialist in the Department of Commerce of the United States. Mr. Alderson estimates the total number of prescriptions filled annually in the United States at from 120,000,000 to 180,000,000. These figures are wide apart and certainly cannot have been obtained from any

representative studies. I mention them to show how completely we are lacking in dependable statistics of professional practice. My own prediction is that Mr. Alderson's figures are far below the total.

One certain result of this survey has been to definitely place pharmacy as a major factor in public health. In Maryland alone, pharmacists are called on three and a half million times a year to compound and dispense medicines for the treatment of the sick. This is a contribution to public health possibly unsurpassed by any other professional group.

PHARMACY AS AN AID TO PUBLIC HEALTH.

Surgeon William H. Slaughter of the U. S. Public Health Service recently said, "Although the primary function of the pharmacist is to supply drugs for the cure of disease, yet there is a vital secondary duty for him to perform—to impart information regarding public health. The pharmacist occupies a strategic position and of all others is the best single individual to give such information."

MAJOR WALTER REED ANNIVERSARY.

Herbert S. Hollander contributed a most interesting article on Major Walter Reed to the Magazine Section of the *Washington Post* of September 13th. The author depicts the great care Dr. Reed exercised in making his investigations. He was born in rural Virginia, September 13, 1851, and died in Washington, November 23, 1902. His memory is perpetuated by the Walter Reed Hospital.

FOUNDING OF THE FIRST RED CROSS CHAPTER IN 1881.

Dansville, N. Y., celebrated the founding of the first Red Cross Chapter on September 9th. In paying tribute (over the radio) to Miss Barton, Miss Boardman, Judge Payne and all who have given service, President Hoover said in part:

"In its lifetime the Red Cross has raised and expended nearly a billion of money in the relief of human distress. The national organization has become our nation's assurance of adequate prompt and efficient handling of any catastrophe within our borders. It is the flowering of the spiritual impulse to serve the common need. It represents both the common impulse of sympathetic help and the mechanism for its practical expression. It stands as a monument to individual and local initiative. It proves the ability of a democracy to create from the people themselves the agencies for their service."

Pharmacists, as citizens and as men engaged in professional service have always contributed their part and will do so again when the calls on the Red Cross are greater than ever.

ALKALOIDS IN CRUDE KEROSENE.

Alkaloids newly discovered at the University of Texas in crude kerosene are being tested at the University of Pennsylvania for possibilities of new medical properties.

These products, different from anything hitherto obtained from a natural source, are classified as hydroaromatic bases; the report states that these alkaloids contain no oxygen.

The coöperative research was announced by Dr. J. R. Bailey, professor of organic chemistry at the University of Texas. The petroleum alkaloids will be tried out in the cancer research institute of the University of Pennsylvania. The head of this institute, Dr. Ellice McDonald, issued a statement that "these new substances are a great and promising field in medicine and biological research."

CLINICAL TRIALS OF NEW REMEDIES IN GREAT BRITAIN.

The British Medical Research Council has appointed a Therapeutic Trials Committee to assist the Council in arranging for properly controlled clinical tests of new medicinal products. The Therapeutic Trials Committee will consider applications by commercial firms for the examination of new products, submitted with the available experimental evidence of their value, and will arrange appropriate clinical trials in suitable cases. The Committee will work in close touch also with the existing Chemotherapy Committee, who are engaged for the Medical Research Council in promoting researches to discover and produce new remedies. The Therapeutic Trials Committee will invite suitable experts in particular branches of medicine or surgery to undertake the clinical tests of preparations accepted for trial.

THE DEPARTMENT OF THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY

President, A. L. I. Winne, Richmond, Va. *Treasurer*, J. W. Gayle, Frankfort, Ky. *Chairman of Executive Committee*, A. C. Taylor, Washington, D. C. *Secretary*, H. C. Christensen, 130 N. Wells St., Chicago, Ill.

ACTIVE MEMBER STATES.

Alabama	Indiana	Montana	Rhode Island
Alaska	Iowa	Nebraska	South Carolina
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Arkansas	Kentucky	New Hampshire	Tennessee
Colorado	Louisiana	New Jersey	Texas
Connecticut	Maine	New Mexico	Utah
Delaware	Maryland	North Carolina	Vermont
D. of Columbia	Massachusetts	North Dakota	Virginia
Florida	Michigan	Ohio	Washington
Georgia	Minnesota	Oklahoma	West Virginia
Idaho	Mississippi	Oregon	Wisconsin
Illinois	Missouri	Pennsylvania	Wyoming
		Porto Rico	

ABSTRACT OF MINUTES TWENTY-EIGHTH ANNUAL CONVENTION NATIONAL ASSOCIATION BOARDS OF PHARMACY, MIAMI, FLA., JULY 27-28, 1931.

The twenty-eighth annual convention of the National Association of Boards of Pharmacy in Miami tied the all-time record for the number of states represented which was established in Portland, Maine, in 1928 when 35 states sent delegates. The same number of states sent representation to Miami, although the number of delegates was slightly less this time, being 61 active and 2 honorary members. The Credentials Committee was composed of M. N. Ford of Ohio, R. W. Fleming of Nevada, and H. M. Lerou of Connecticut.

PRESIDENTIAL ADDRESS.

The very interesting presidential address of W. M. Hankins was printed in full in the August JOURNAL (page 825), an abstract here being unnecessary. The committee that reviewed the address consisted of W. T. Edmunds of Georgia; J. W. Slocum of Iowa; and F. H. King of Ohio, and commented on its directness and appeal and "the apparent earnestness and anxiety of the president for the best interests of this great organization."

REPORT OF TREASURER.

The treasurer reported total funds on hand of $8689.52, detailed figures to be published in the Proceedings later. Everyone present regretted that Treasurer Gayle had to return home before the meeting adjourned on account of his health, but the good news has been received that he is again well.

REPORT OF EXECUTIVE COMMITTEE.

This report reviewed the activity of the Committee throughout the year, covering the business considered. The suggestion of the president that a stand-

ing elective committee on resolutions be created by amendment of the constitution to provide therefor, was heartily approved and the change recommended. The following additional questions were ordered inserted on the official reciprocal application blank as soon as a new supply is printed:

(1) Whether certificate of registration of applicant has ever been revoked in any state, not only the state from which he applies; (2) whether applicant ever had a liquor or a narcotic tax stamp permit revoked; (3) whether applicant was ever held for violation of pharmacy laws of any state.

The budget for the year 1931–1932 totaling $19,882.70 was approved, plus an additional sum not to exceed $1800 for the publication of six bulletins by the Department of Education during the fiscal year. A financial statement was attached to the report which will be published in full in the Proceedings.

EVALUATION OF PRACTICAL EXPERIENCE.

An interesting paper on this subject giving the results of an experimental examination in Maryland to ascertain the value of practical experience was presented by Secretary Robert L. Swain of the Maryland Board of Pharmacy. The results of special test examination questions showed no marked relationship between the practical experience test and the other regular subjects of examination. Mr. Swain felt that actual store practice has a valid place in the training of pharmacists and asked that other boards carry out individual study to determine, if possible, the actual value of practical experience by similar tests.

SECRETARY'S REPORT.

Secretary Christensen reported 851 applications issued during the fiscal year, as against 1146 the previous year—a decrease of 295 applications. This was accounted for by the fact that the $15 fee had been in effect for six months of the previous year, whereas the $25 fee had been in effect for the entire last fiscal year. The income for the two years was about equal. The secretary told of the interesting correspondence of the central office and the statistical information being compiled for various sources, including the United States Government.

DEPARTMENT OF EDUCATION.

Director Swain in his report showed the trend of adult education and the recognized necessity for keeping abreast of the times in medicine, law and other professions, which applies to pharmacy as well. He said that the criticism that the subject matter of the bulletins is too theoretical is merely a proof that this work is needed. There is no easy road to education. He recommended that the publication of the bulletins be continued and issuance of six bulletins during the fiscal year was authorized, appropriation being made by the Executive Committee.

ANNUAL BANQUET.

The annual banquet at the McAllister Hotel, Miami, on Monday evening, July 27th, was a decided success. President Hankins proved himself to be an able and witty toastmaster, and the evening was most enjoyable. Judge Halsted L. Ritter was guest of honor and made a very interesting speech.

RESOLUTIONS.

Chairman A. L. I. Winne of the Resolutions Committee reviewed all the resolutions sent in from the various districts, but as none of these were found to cover new national matters of policy, the committee did not recommend the adoption of any of these resolutions by the N. A. B. P., and the Association accepted the report of the committee.

However, a resolution endorsing the program of observance of the Two Hundreth Anniversary of the Birth of George Washington, to take place in 1932, and pledging the coöperation of the N. A. B. P. was unanimously adopted.

AMENDMENT TO CONSTITUTION.

The following amendment to the Constitution was read at the first session and adopted at the final session, upon recommendation of the Committee on Constitution and By-Laws, the President in his address, and the Executive Committee in its report:

Section 6 to Be Added to Article IV of the Constitution.

There shall be a standing Committee on Resolutions consisting of five members, to be elected with terms of one, two, three, four and five years each, respectively, the expiring term each year to be filled by election in the usual manner, and the President of the Association shall be empowered to fill any vacancies occurring between conventions by appointment, said appointment to cover the unexpired portion of the term.

It shall be the duty of the Committee on Resolutions to give due consideration to all resolutions submitted to the national body by individuals or by districts; to check against duplication or contradiction with past resolutions adopted by this Association; to refer all resolutions concerning examination procedure to the Advisory Examination Committee for report before submitting same to the national body; and to put all resolutions in proper phraseology and form before submitting them to the national body.

ELECTION OF OFFICERS.

The Nominating Committee, consisting of Messrs. Walton of Pennsylvania, Wise of Delaware, Rothrock of Indiana, Walter of Texas and Ford of Ohio, submitted the following nominees as officers for the ensuing year:

For *President*, A. L. I. Winne, Virginia; for *Vice-Presidents*, District: No. 1, C. Thurston Gilbert, Connecticut; 2, Robert P. Fischelis, New Jersey; 3, Clare F. Allan, Michigan; 4, J. W. Slocum, Iowa; 5, W. L. Lyle, Virginia; 6, Booker T. Latimer, Arkansas; 7, John K. Clemmer, Florida; 8, Jos. P. Murray, Colorado; 9, A. L. Phelps, Arizona. For *Member Executive Committee*, W. M. Hankins, Florida; for *Secretary*, H. C. Christensen, Illinois; for *Treasurer*, J. W. Gayle, Kentucky. For *Resolutions Committee:* 5-year term, A. C. Taylor, District of Columbia; 4-year term, R. B. Rothrock, Indiana; 3-year term, Rowland Jones, South Dakota; 2-year term, C. Thurston Gilbert, Connecticut; 1-year term, W. E. Bingham, Alabama. For *Syllabus Committee*, George Judisch, Iowa.

The report of the Nominating Committee was accepted and the acting secretary was instructed to cast a ballot for the officers nominated, whereupon they were declared elected. The new officers were then installed, and as no other business was brought before the meeting when called for by President Winne, he declared the twenty-eighth annual convention adjourned.

H. C. CHRISTENSEN, *Secretary.*

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

C. B. JORDAN—CHAIRMAN OF EXECUTIVE COMMITTEE, A. A. C. P., EDITOR OF THIS DEPARTMENT.

THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY—SUMMARY OF THE PROCEEDINGS OF THE 1931 MEETING.

The thirty-second annual meeting of the American Association of Colleges of Pharmacy was held at the Columbus Hotel, Miami, Florida, July 27 and 28, 1931. Sixty-nine representatives from 41 Colleges in 29 states, the District of Columbia and Porto Rico were in attendance.

Following roll-call, Dean Beard read a memorial on the death of Dean Edward V. Howell and Dean Bliss on the death of Professor E. A. Southworth.

(The address of President J. W. Sturmer is printed in the August JOURNAL, pages 817–822.)

President Sturmer recommended "that a committee be appointed to study our membership requirements and to prepare the way for such changes in our membership standards as may be deemed necessary for the best interests of the future of pharmacy."

The recommendation was referred to the Committee on Resolutions.

REPORT OF THE SECRETARY-TREASURER.

The Secretary-Treasurer reported a total membership of fifty-seven colleges, one an associate member.

The second round of official visits to member colleges was begun; seventeen colleges were visited at a total expense of $579.71, an average of $34.10 per college.

The financial statement showed a balance in the treasury of $10,282.58, $8600.00 of which belongs in the fund for the "study of pharmacy."

REPORT OF THE EXECUTIVE COMMITTEE.

Dean Jordan, Chairman of the Executive Committee, submitted the following summary of reports of preliminary training of entering students:

Total number of entering students	2779
Number of high-school graduates	2758
Number of special students	21
Number of students with previous college training	515

This report indicates fewer special students and a larger number having previous college training.

The following official visits were made:

Alabama Polytechnic Institute Department of Pharmacy, University of Georgia School of Pharmacy, Loyola University College of Pharmacy, University of Mississippi School of Pharmacy, University of Tennessee School of Pharmacy and University of Texas College of Pharmacy, visited by J. W. Sturmer.

George Washington School of Pharmacy, Howard University College of Pharmacy and Medical College of Virginia School of Pharmacy, visited by C. A. Dye.

Purdue University School of Pharmacy, Indianapolis College of Pharmacy, Valparaiso University Department of Pharmacy and University of Notre Dame Department of Pharmacy, visited by T. R. Leigh.

Detroit Institute of Technology College of Pharmacy and Chemistry, College of Pharmacy of the College of the City of Detroit and University of Michigan College of Pharmacy, visited by T. J. Bradley.

Ohio State University College of Pharmacy, visited by G. L. Curry.

Each report of the visit as it came to the Executive Committee, *has indicated that conditions are better than they were at the time the first visit was made.*

The Association at its 1930 meeting authorized the Executive Committee (or a subcommittee working under it) to check the college bulletins to determine whether they meet the

Association requirements. Professor L. W. Rising of the New Jersey College of Pharmacy and Professor A. F. Schlichting of the St. Louis College of Pharmacy did this work. The results indicate that not all colleges are complying in every particular but, since the regulation was passed at the 1930 annual meeting, a number of colleges have not had time to comply. So the Committee recommended that no college be reported, at this time, for failure to meet requirements, that the Executive Committee be instructed to notify each college that is not meeting requirements stating wherein they failed and that all colleges whose bulletins do not meet requirements be reported to the Association at the 1932 meeting.

The Committee recommended that the Association endorse the program of observance of the Two Hundredth Anniversary of the Birth of George Washington Bicentennial Commission.

Believing that "the best interests of pharmaceutical North America will be advanced by cordial relationships between the representatives of the college of pharmacy of the Dominion of Canada and the American Association of Colleges of Pharmacy" the Committee recommended

"First, that the secretary be instructed to invite representatives of the Dominion Colleges to attend our next annual meeting and inform them that the privileges of the floor will be granted to them:

"Second, that the chairmen of the Teachers' Conferences be instructed to invite representatives of the Dominion colleges to participate in the program of these Conferences."

A request having come from Professor Meuser of Saskatoon, Saskatchewan, for coöperation in research work on Chinese drugs, the Committee recommended that a copy of the letter be sent to deans of member-colleges, urging them to participate in any way that they can in the research work on these drugs.

The report was accepted and the recommendations referred to the Committee on Resolutions.

REPORT OF THE COMMITTEE ON HIGHER EDUCATIONAL STANDARDS.

Dean Dye directed attention to the generally recognized need for higher standards and a broader training for pharmacists. Colleges of pharmacy must teach more than a mass of disconnected facts. Such facts cannot be understood or intelligently used with only a specialized training. Prospective students are not deterred by high standards or lengthened curricula.

The official visits of member colleges are commendable; they stimulate schools to greater efforts; they give the visitors new points of view.

The report was accepted.

REPORT OF THE COMMITTEE ON CURRICULUM AND TEACHING METHODS.

Dean Leigh, Chairman of the Committee, reported an increasing interest in matters pertaining to curriculum and methods of instruction, as judged by the number of questions the Committee had been asked to study.

A paper, entitled "Remarks on the Four-Year Course" (Proceedings, 1930, pages 44–50), written by Dean J. W. Sturmer, had been referred to the Committee. Study of it led them to recommend, "that it is the opinion of this Association that a professional course in pharmacy is not planned as a preparation for a specific job; it is intended rather to provide a broad education which will prepare the student that he may have the resourcefulness to fit himself into any given job within the field of pharmacy and adjust himself better to the viscissitudes of life."

Desirability of more uniform entrance requirements was considered and, the chairman of the Executive Committee having reported that there is complaint about institutions accepting men who have been dropped from other member colleges, the Committee recommended, "that in the future the official examiner be instructed to make a study of the entrance requirements of the college visited and also discover how entrance applications of students who have been dropped from member-colleges are handled."

A study of the desirability of greater uniformity in college credits led to the following recommendation:

"That the standard credit hour of this Association be defined as one hour of lecture or recitation (or approximately three hours of laboratory work) per week throughout a semester.

"That one clock hour of lecture, recitation or laboratory work shall be of equal value in the determining of the teaching load of the instructor.

"That the official transcript of the student's record as furnished by the college shall include

credit hours (or terms easily convertible to credit hours), grades, length of course and all disciplinary action such as warnings, probation, suspension and expulsion."

Finally, the Committee studied the question of advisability of publication of texts especially designed for students of pharmacy in basic subjects, as chemistry, physics and botany. The Committee believes that the use of such texts tends to narrow the point of view. "On the other hand, every effort ought to be made to encourage the writing of better texts in the special pharmaceutical fields."

The report was approved and the recommendations adopted.

REPORT OF THE COMMITTEE ON ACTIVITIES OF STUDENTS AND ALUMNI.

Dr. O'Connell, in reporting for this Committee, urged faculties to foster the idea of the establishment of student branches of the AMERICAN PHARMACEUTICAL ASSOCIATION and where they are already established, to add their efforts in making them thorough-going organizations.

The report was accepted.

REPORT OF THE COMMITTEE ON INVESTIGATION OF PHARMACY SCHOOLS BY THE CARNEGIE FOUNDATION.

Dr. DuMez, in presenting this report, stated that there had been no opportunity for the Committee to function. Since the field of activity of the Committee is within the province of the Joint Committee on the Study of Pharmacy, it was recommended that the Committee be discontinued.

The report was accepted and the recommendation adopted.

REPORT OF THE COMMITTEE ON RELATION OF BOARDS AND COLLEGES.

Dean Spease, General Chairman, reported that meetings were held in Districts 1, 2, 3, 4 and 6. Some details about programs were given. Other districts held no meetings, though District No. 9 had a College of Pharmacy Day at the State Association meeting. He urged that these district meetings be continued. The report was accepted.

REPORT OF THE SYLLABUS COMMITTEE.

Dean Beard reported that a mimeographed volume outlining thirty courses of study had been mailed to one hundred and fifty college and board officials. The Committee wished constructive criticism of these tentative outlines but the response had been meager. His report included a list of the teachers who had prepared the Syllabus outlines; also a financial statement.

It is expected that the volume will be published well in advance of the effective date of the minimum four-year course.

The report was received with the thanks of the Association.

REPORT OF THE COMMITTEE TO COÖPERATE IN AN ADVISORY CAPACITY IN THE REVISION OF THE SYLLABUS.

Dean Koch reported that there had been coöperation by members of the Committee, individually, but there had been no opportunity for action as a body. Inasmuch as the Syllabus Committee had submitted its outline to member-colleges, it was requested that this Committee be discontinued.

The report was accepted and the recommendation to discontinue the Committee adopted.

REPORT OF THE COMMITTEE ON STUDENT BRANCHES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

Dr. Christensen reported that, after the AMERICAN PHARMACEUTICAL ASSOCIATION had adopted the necessary amendments to the By-Laws, Secretary Kelly had informed the deans of the action, recommending that it be given careful consideration.

Two branches had been organized during the year.

The question of the possibility of a student branch affecting membership in a local branch had arisen and the Committee recommended that the possibility of students joining the local branch and becoming associate members of the A. PH. A. be referred to the Council of the A. PH. A. for decision. The report was received and the recommendation adopted.

REPORT OF THE COMMITTEE ON THE ESTABLISHMENT OF A PHARMACY CORPS IN THE UNITED STATES ARMY.

Dean Bliss reported that the Committee had continued its efforts, he believed, with more progress toward its objective than during any previous year.

He reminded the Association of the essential points concerning any measures which propose improvement in pharmaceutical service.

The Committee made the following recommendations:

"1. That the American Association of Colleges of Pharmacy renew its endorsement of measures looking toward the proper recognition of pharmacy in the U. S. Army and toward improvements in the pharmaceutical service of that branch of our national defense forces.

"2. That a committee to assist in securing the necessary legislation be continued.

"3. That this organization go on record as endorsing an officially recognized pharmacy group as an integral part of the Medical Department of the U. S. Army.

"4. That the work of organizing county committees on the Pharmacy Corps among the pharmacists of the country be redoubled, and the personal campaigns in congressional districts be continued and expanded.

"5. That the member-schools of the Association renew their efforts in behalf of the Pharmacy Corps.

"6. That the personal conferences between the Committee on the Pharmacy Corps and the Surgeon General's office be herewith approved and their continuance encouraged.

"7. That measures be continued which will insure the presence of active workers in behalf of the Pharmacy Corps at the national and state conventions of all veteran military organizations and their auxiliaries, and at Washington, D. C., during congressional sessions at which the Pharmacy Corps may be taken up.

The report was accepted and the recommendations adopted.

REPORT OF THE COMMITTEE ON COUNCIL ON PHARMACEUTICAL EDUCATION.

This Committee made no report inasmuch as the Joint Committee on the Study of Pharmacy had authorized a sub-committee to study the matter of the establishment of such a council and to present a definite plan at the next annual meeting.

REPORT OF THE COMMITTEE TO INTEREST PHILANTHROPISTS IN DRUG RESEARCH.

Dr. Langenhan, Chairman, submitted correspondence with members of his Committee with some suggestions that had been made and asked that the purpose of the Committee be clearly defined. The report was received and the Committee continued.

REPORT OF THE COMMITTEE ON REVISION OF THE CONSTITUTION AND BY-LAWS.

Dean Jordan, Chairman of this Committee, reported a considerable number of changes, none of which changed the content. The meaning of some sections was clarified and the whole had been submitted to an authority on English in order that the best possible word and construction might be used. The report was accepted and the changes adopted.

REPORT OF REPRESENTATIVES TO AMERICAN COUNCIL ON EDUCATION.

Dr. Lyman, as voting delegate, reported on both the 1930 and 1931 meetings.

The two major topics presented at the 1930 meeting were "Federal Relations to Education" and "Plans for Educational Research." The outstanding paper of the meeting was "Education and Health, a Community Problem," by Dr. Ray Lyman Wilbur, Secretary of the Interior.

At this meeting, Dr. Lyman was elected first vice-chairman of the Council for 1930–1931, and sent as a representative of the Council to the dedication of the new pharmacy building at Purdue University.

At the 1931 meeting, Chancellor Capen reported for the Committee on Problems and Plans in Education and Dr. Mann for the National Advisory Committee on Education. Discussion of "Whose Money and How Much for American Education" occupied an entire session.

Dr. Lyman made two suggestions:

"1. That the members of the Association follow the work of the American Council on Education. This can be done by perusing the *Educational Record*, which is the official publication of the Council.

"2. That great care be made in the selection of the delegate to this meeting. He should be someone who is interested in the general problem of education and who has the ability, knowledge and scholarship to discuss problems of national scope with authority and who can make pharmacy a factor in the work and the discussion of the Council."

At the suggestion and request of the Executive Committee he recommended "that the representatives of the Association to the American Council on Education constitute a standing committee." The report was accepted and the recommendation approved.

REPORT OF THE REPRESENTATIVE TO THE DRUG TRADE BUREAU OF PUBLIC INFORMATION.

Professor Cook reported that fifty bulletins had been issued by Director Fischelis. A continuance of the Bureau's activities was directed and it was suggested that an effort be made to secure financial support from state pharmaceutical associations. He recommended that the Association of Colleges continue its support. The report was accepted and the recommendation concurred in.

REPORT OF THE REPRESENTATIVE TO THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS.

Dean LaWall reported having attended several sessions of the N. A. R. D. meeting.

Of particular interest to the Association of Colleges, was a resolution endorsing the endowment of pharmaceutical education by manufacturers who have made their fortunes from pharmaceutical manufacturing; the protest to newspapers against the improper use of the unqualified word "drug" when "narcotic drug" is meant; resolutions having to do with U. S. P. and N. F. propaganda; and the endorsement of the Pharmacy Corps bill. The report was received.

REPORT OF REPRESENTATIVES TO THE DRUGGISTS RESEARCH BUREAU.

Mr. Paul C. Olsen presented the report, which included a list of the publications and other activities of the year.

The report was received and an expression of appreciation extended to the Bureau for the valuable information it is furnishing.

REPORT OF REPRESENTATIVES TO THE NATIONAL DRUG-TRADE CONFERENCE.

Dr. Riggs, who had attended instead of Dean Little, in his report enumerated the topics discussed at the Conference. The report was accepted.

REPORT OF REPRESENTATIVE ON NATIONAL DRUG STORE SURVEY.

Dean Caspari explained the work of this survey of twelve drug stores in St. Louis. The report was accepted.

REPORT ON BIOLOGICAL ABSTRACTS.

Dr. Youngken explained the work of this journal, how it has solved an economic problem for the average worker and its need for financial support. The report was received.

REPORT OF THE COMMITTEE ON CENTENNIAL CELEBRATION.

The secretary read a brief report written by Dr. Riggs who had attended a meeting of the Committee in Washington, D. C. A permanent organization was formed and approval given to the idea of having the exhibit represent the progress of pharmacy during the last one hundred years.

Professor Gathercoal explained the work of the Committee and the progress of the Centennial Exposition, or "Century of Progress" as it is officially designated. Its basic principle is the relationship between science and industry, in other words, the part science has played in the development of industry.

It is hoped that an international pharmaceutical congress may be held in connection with the exposition.

Dean Day spoke of the financial demands and the question of a contribution of $100.00 from the Association was referred to the Executive Committee with power to act and, in the event that funds of the Association do not warrant spending this sum, the Committee was authorized to ask for contributions from member-colleges.

REPORT OF THE HISTORIAN.

Dean Kremers, in submitting his report, stated that it was a preliminary draft and asked that it be returned to him for revision after corrections or additions had been suggested. Believing that opportunity for more careful reading should be given, the secretary was authorized to have copies prepared and sent to member-colleges for suggestions.

REPORT OF THE COMMITTEE ON RESOLUTIONS.

The Committee on Resolutions submitted the following report:

"We felicitate the president of the Association on his scholarly address and his admirable résumé of the early activities of the Association.

"We heartily approve the sentiments which he expressed toward 'raising the quality' of pharmaceutical education by limiting the number of schools, by discouraging the establishment of new schools or whenever possible encouraging the merger of existing schools.

"Therefore, we recommend that a copy of the president's address and of this report be mailed by the secretary, as soon as convenient to the deans of the member-colleges and to the executive officer of each college, that is the president of the institution or of the board of trustees.

"We approve the recommendation of the President 'that a committee be appointed to study the membership requirements of the Association and to prepare the way for such changes in its membership standards as may be deemed necessary for the best interests of the future of pharmacy.'

"We heartily approve the following recommendations made by the Executive Committee:

" '1. That the resolution submitted by the United States Commission for the celebration of the two hundredth anniversary of the birth of George Washington receive our hearty approval.

" '2. That the recommendation of the Committee relating to the reporting of member-schools who failed to meet certain specific requirements as to length of time courses are pursued and who failed to give names of the instructors, etc. (in bulletins) be carried out by notifying the schools of the omission of this required information; that if schools fail to correct this omission they be reported to the Assooiation at the next annual meeting.

" '3. That, at the next annual meeting, in Toronto, the Association extend to the representatives of the colleges of pharmacy in the Dominion of Canada an invitation to participate in the deliberations of the Association and that they be granted the privileges of the floor and that they be invited to participate in the programs of the teachers' conferences.'

"We express our very deep appreciation to Dean Wulling for his very able presentation and discussion of higher educational standards for pharmacists. We accept the plan in principle as a suggestion for future consideration. We feel, however, that inasmuch as we are entering upon the minimum four-year requirement, it is unwise to bring up these new requirements for discussion at this time."

Respectfully submitted,

CHARLES H. STOCKING W. J. HUSA
CHAS. E. CASPARI C. A. DYE, *Chairman*.
GEO. C. SCHICKS

The report was adopted as read.

ELECTION TO ACTIVE MEMBERSHIP.

Duquesne University College of Pharmacy, an associate member for several years, has been elected to active membership, the vote being completed by mail since the convention.

PAPERS.

A paper by Dean Wulling, entitled "Still Higher Educational Standards," was read by Secretary Cooper. Dean Wulling's paper set forth the following:

"1. That the next logical step in pharmaceutical educational development be the requirement of the completion of two years of academic study beyond the high school, the two years to be completed either (1) preferably before entrance upon technical pharmaceutical study of a minimum of three years (five years in all) or (2) concurrently with the first of the three years of pharmaceutical study, devoting the last two years of the five exclusively to purely pharma-

ceutical work, all with the purpose of placing pharmaceutical educational requirements upon a parity with the prerequisite requirements of dentistry, law, medicine, education, business, engineering and other professions, and

"2. That this Association (A. A. C. P.) accept the suggestion of the 'two and three' plan in principle at this time in the hope that it can be made operative later on, and

"3. That all members of this Association who may be in position to put the plan into operation now or soon, be encouraged to do so."

"Languages in the Four-Year Course" was the subject of a paper presented by Dr. W. J. Husa. Dr. Husa suggested a plan which would require Latin if it had not been taken in preparatory school; if it had, then the student might elect French, German or Spanish. A study made at the University of Florida showed that 63% had one or more entrance units in Latin, 15% had one or more units in French or Spanish, 22% had no language other than English. The method suggested would eliminate short courses in Latin and provide a more adequate course in language, that would be of cultural value as well as practical.

JOINT SESSION.

At the joint session with the National Association of Boards of Pharmacy, Editor Eberle presented the report of the Fairchild Scholarship Committee. The Scholarship was awarded to Louis Magid, graduate of the University of Florida.

Dr. L. L. Walton, Chairman of the Committee on the Study of Pharmacy, reported progress.

A paper, entitled "The Standardization of Pharmacies for Experience Requirements under State Pharmacy Law," was presented by Professor George C. Schicks. .Professor Schicks set forth in a very definite way the objections against such laws and the practical impossibility of making such laws workable or enforceable.

OFFICERS FOR 1931–1932.

President, Dean Townes R. Leigh, Gainesville, Florida.

Vice-President, Professor Edward D. Davy, Cleveland, Ohio.

Secretary-Treasurer, Professor Zada M. Cooper, Iowa City, Iowa.

Chairman of Executive Committee, Dean Charles B. Jordan, Lafayette, Indiana.

Members of Executive Committee to serve two years, Dean Julius W. Sturmer, Philadelphia, Pennsylvania; Dean Rufus A. Lyman, Lincoln, Nebraska.

(*Members of Executive Committee whose terms expire at end of present year*, Dean Andrew G. DuMez, Baltimore, Maryland; Dean J. G. Beard, Chapel Hill, North Carolina.)

Member of Syllabus Committee, Dean J. G. Beard, Chapel Hill, North Carolina.

ANNUAL DINNER.

The annual dinner was held at the McAllister Hotel. President Sturmer acted as toastmaster and Dr. H. O. Enwall of the University of Florida was the speaker, his subject being some phases of education in America. American education, he said, has three major purposes: the first is education for practical efficiency; the second is education for citizenship; the third is education for social service. We need a deepening of meaning in our efficiency program, in our notion of what education for American citizenship means, in social and religious aspects of life.

CONFERENCE OF TEACHERS OF PHARMACY.

Chairman Fuhrmann presided and the following papers were presented:

"Pharmaceutical Arithmetic: Content of the Course," by J. L. Klotz; "Problems Confronting the Teacher of Dispensing Pharmacy," by Louis W. Rising; "A Course in Drug Assay to Meet Commerical Requirements," by Russell L. Taylor; "Pharmaceutical Arithmetic as a Separate Course," by Ralph L. Calvert; "Pharmaceutical Arithmetic Methods Used in Laboratory Teaching," Antone O. Mickelsen; "Equity and Accuracy—Essential Elements in Prescription Pricing," by Leonard A. Seltzer.

In addition to the papers there was discussion of the topic, "Arithmetical Ability as Shown by Placement Tests," by Dean Raabe and others; also "Percentage Solutions," by Professor Crockett and others.

Officers elected for the ensuing year are Dean Elmer L. Hammond, *Chairman;* Professor Charles H. Stocking, *Vice-Chairman;* and Professor L. W. Rising, *Secretary.*

CONFERENCE OF TEACHERS OF PHARMACEUTICAL ECONOMICS.

Chairman O'Connell made a brief introductory address, setting forth the need for a careful study of the problem of the teaching of fundamental economic principles governing pharmacy and what such a study should include.

Mr. Paul C. Olsen presented, "Business Subjects Planned for Inclusion in the New Syllabus."

Dean Jordan read a paper prepared by J. L. Weinland, entitled "Purdue University Pharmacy Extension Department."

Officers chosen for the next year were: Dean Howard C. Newton, *Chairman,* and Mr. W. Bruce Philip, *Secretary.*

CONFERENCE OF TEACHERS ON MATERIA MEDICA.

Chairman Bliss made no address but raised the question of the possibility and advisability of changing the name of the Conference from Materia Medica to Pharmacology.

The following papers were presented.

"What is Pharmacognosy?" by H. W. Youngken; "The Term 'Pharmacology,' Its Meaning and the Scope and Content of a Course in Pharmacology for Pharmacy Students," by A. Richard Bliss, Jr.; "Materia Medica—How Defined," by B. V. Christensen.

A motion was passed that the name of the Conference be changed to Conference on Pharmacognosy and Pharmacology.

Officers elected for the ensuing year were Dr. F. J. Bacon, *President,* and Dr. B. V. Christensen, *Secretary.*

CONFERENCE OF TEACHERS OF CHEMISTRY.

Dr. Loyd E. Harris, Chairman of the Conference, presided and the following papers were presented and discussed:

"The Scope of Pharmaceutical Chemistry," by Glenn L. Jenkins; "Prerequisites to Pharmaceutical Chemistry," by Townes R. Leigh; "Methods of Presenting Pharmaceutical Chemistry," by Edward D. Davy.

Officers elected for the ensuing year were Professor John C. Bauer, *Chairman,* and Dr. P. A. Foote, *Secretary.*

ZADA M. COOPER, *Secretary.*

Approved:

CHARLES B. JORDAN, *Chairman Executive Committee.*

ABSTRACTS OF PAPERS READ BEFORE SCIENTIFIC SECTION A. PH. A.

Influence of Period of Vegetation and Development of Plant on the Alkaloidal Content of Hyoscyamus Niger L., by Zdenek F. Klan, Prague, Czechoslovakia.

A thorough study of the alkaloidal content of the different parts of this important drug plant during the various stages of its growth and development. Extensive tables are given showing the quantitative alkaloidal content with a qualitative differentiation as to whether it is chiefly atropine, hyoscyamine, scopolamine, tropine or scopoline.

Among many valuable conclusions it was found that (1) with the growth of the germinating plant the quantity of alkaloids in its organs decreases and that (2) in the order of their alkaloidal content the parts of the plant are as follows: root (both of annual and biennial plants), flowering tops, fruits, leaves and stems.

A Note on the Assay of Tincture of Ferric Chloride, by Margarethe Oakland and John C. Krantz, Jr.

In this paper the authors have shown the assay of tincture of ferric chloride to be cumbersome and unfitted for Pharmacopœia purposes. A more simplified method of assaying has been developed which has been proposed for the eleventh revision of the Pharmacopœia.

THE SEVENTY-NINTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, MIAMI, FLA., JULY 27 to AUGUST 1, 1931

ABSTRACTS OF THE MINUTES OF THE GENERAL SESSIONS.

The sessions of the seventy-ninth annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION were held in Columbus Hotel, Miami, Fla. The list of members in attendance, as far as we have the registration, is printed in the August JOURNAL on pages 861 to 863. Some of the Committee Reports referred to in the proceedings have been printed in the Council minutes on pages 838 to 859; some are included in these minutes and others will be printed in later issues of the JOURNAL.

FIRST GENERAL SESSION.

The First General Session of the seventy-ninth annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION was called to order by President H. C. Christensen at 10:00 A.M., Wednesday morning, July 29th, in Procter Hall, Columbus Hotel. President Christensen invited the Past-Presidents of the ASSOCIATION to seats on the platform; in the order of seniority, of those present, they are: James H. Beal, E. G. Eberle, William B. Day, C. Herbert Packard, Samuel L. Hilton, Julius A. Koch, H. V. Arny, L. L. Walton and Theodore J. Bradley. The President also invited Honorary President, Louis Emanuel, and President Julius H. Riemenschneider, of the N. A. R. D., to seats on the platform. There were seated on the platform the ASSOCIATION officers of the present year.

Secretary Kelly read telegrams and letters of greetings and good wishes, from the Senior Past-President, John Uri Lloyd, the Mayor of Havana, Tirso Mesa; Mrs. John G. Godding; Secretary R. B. J. Stanbury, of the Canadian Pharmaceutical Association; Ernest Berger, Nat Hunter and Mrs. Robert J. Ruth.

Secretary E. F. Kelly presented his report and also that of Treasurer Holton. These reports follow.

REPORT OF THE SECRETARY.

April 30, 1930 to June 30, 1931.

The ASSOCIATION year that has elapsed since the last annual meeting in May 1930, has been an unusually long one as happens each ten years. Most of the state associations have held two meetings during this ASSOCIATION year and the relations existing between them and the A. PH. A. have grown closer. Most of the activities of the Secretary's office are reported on by the other officers and divisions of the ASSOCIATION with whom he coöperates, and therefore will be only briefly referred to herein.

The 1930 Meeting.—The publicity following each annual meeting is more widely distributed and more satisfactory, due in large measure to the coöperation of the pharmaceutical publications of the country to whom the Secretary desires to express his sincere appreciation. The reports of the delegates to our meetings are also more informative to the members of the organizations represented.

The resolutions adopted at the Baltimore meeting were promptly mimeographed and distributed to publications, the secretaries of state associations and boards of pharmacy, to the schools and colleges of pharmacy and to the official delegates.

The resolutions of general interest were adopted by many of the state associations. In two states, Colorado and Texas, a pharmacist was added to the membership of the State Board of Health, bringing the total of such boards having a pharmacist member to seven. A number of states have acted favorably upon the suggestion that they support the work of the Drug Trade Bureau of Public Information. A number of pharmaceutical publications commented editorially on certain resolutions.

All of this goes to show the importance of the resolutions adopted by the A. PH. A. and the opportunity for leadership offered in this connection. A number of the resolutions adopted last year should be re-adopted this year so as to make their effect continuous.

A sincere effort has been made to put each resolution into effect as far as was possible.

The 1931 Meeting.—The local secretary and his associates have been under a real disadvantage because of the distance from the ASSOCIATION'S offices and because the ASSOCIATION has never before met in this section of the country. It has been a new undertaking to them in every respect and they deserve especial commendation for their sustained efforts and their enthusiastic interest in the complete success of this meeting. Bringing an annual meeting to this section has accomplished the purpose of making the pharmacists better acquainted with the ASSOCIATION and its work and arousing their interest in both.

In January, President Christensen and your secretary met with the Local Committee, Dr. Beal, Mr. Hankins and Dean Leigh in Miami and went over the arrangements for the meeting in detail. We are indebted to all of these gentlemen for their willingness to give of their time and thought to the success of the meeting. During this visit, President Christensen and I met with groups of pharmacists in Jacksonville, Tampa and St. Petersburg and were splendidly received.

Publicity bulletins about the meeting have been sent out by the local group and from the ASSOCIATION office, and the Drug Trade Bureau of Public Information has continued its cooperation. The local secretary will advise you of other persons and organizations that have cooperated.

Let me again urge officers, section officers and committee chairmen to send in addresses reports and abstracts of papers earlier, as the distribution of this material in advance will assist greatly in our publicity to acquaint pharmacists and the public with what the ASSOCIATION is doing.

The Standard Program.—The Council has a Committee on Standard Program of which the secretary is a member, to coöperate and advise with him in arranging the program of the meeting. At the first meeting of the Council following the last annual meeting steps were taken to improve the program by correcting certain conflicts and arranging for certain reports to be made before the divisions of the ASSOCIATION most directly interested in them. As experience is gained the program can be further simplified which is desirable in view of the number of affiliated organizations and divisions meeting during the week.

Pharmacists in the Government Service.—Due to the short closing session of Congress no action was taken on the Copeland-Reece Bill providing for a Pharmacy Corps in the Army or on the Wainwright Bill as introduced at the request of the Surgeon General, or on the Bill to reorganize the Medical Service in the Veterans Bureau, or on the Report of the Personnel Classification Board which reclassified the Civil Service employees of the Government. All of this legislation will be reintroduced in original form or amended as soon as the new Congress assembles in December. In the meantime real progress has been made in contacting the officials of the Medical Department of the Army, in interesting pharmacists and pharmaceutical organizations in this very necessary activity for better pharmaceutical service and better recognition of pharmacy as a public health profession—and in informing members of Congress of the necessity for legislation, guaranteeing to those in the various Government services the same pharmaceutical service and protection as those in civil life enjoy. Since our last meeting, ten pharmacists have been commissioned as Assistant Pharmacists in the Public Health Service. Pharmacy secured ten of the fifty-five commissions provided for in the bill. Twenty-six Chief Pharmacists were eligible to take the physical and mental tests. So far no decision has been reached as to the future status of the sixteen who were unsuccessful in either test and in the meantime they continue their positions as civilian employees under the Civil Service.

By a recent proclamation of the President, all pharmacists in the Veterans Bureau were placed under the Civil Service and for the first time pharmacy was included in the Professional and Scientific Service. The classification of pharmacists in the Veterans Bureau is now being worked out and it is believed that pharmacy will eventually be placed on a satisfactory basis in this Service under Civil Service until the entire medical service is reorganized and put on a commissioned basis.

In two branches of Government Service pharmacists have a much more satisfactory status. Agreement has been reached between officials of the Medical Department of the Army and representatives of the A. PH. A. on many steps to improve pharmaceutical service in the Army and commission pharmacists, and a representative of the Surgeon General will personally explain the status of this legislation at a later meeting.

Hospital Pharmacy.—The request of the A. PH. A. that a requirement as to the hospital

pharmacy be included in the requirements for an approved hospital is still under consideration by the Council on Medical Education and Hospitals of the *A. M. A.* which is making a careful study of the preparation and distribution of drugs and medicines in hospitals. Undoubtedly this study will bring out the need for standardization of pharmaceutical service in hospitals as has been done in civil life and as is being done in the Government services, and for placing the service in charge only of those educated for this important duty and licensed by the state. When pharmaceutical service and protection in hospitals and other institutions and in the Government services are placed on the same plane as the laws of the several states require in civil life, pharmacy will be in a much sounder position just as those who require pharmaceutical services in these institutions will be in a much safer position which after all is the most important consideration.

The ASSOCIATION has continued its membership in the American Conference on Hospital Service.

Narcotic Conference.—In August last the ASSOCIATION was invited by the Public Health Service to take part in a Conference of Representatives of Medical, Dental, Pharmaceutical, Veterinary Associations and other Scientific Associations and Agencies to consider the question of the necessity for and the methods to be used in carrying out the provisions of the Act approved June 14, 1930, and generally known as the Porter Bill, relating to the quantity of crude opium, coca leaves, and their salts, derivatives and preparations, together with such reserves thereof as are necessary to supply the normal and emergency medicinal and scientific requirements of the United States.

The ASSOCIATION was represented by A. G. DuMez, E. G. Eberle, S. L. Hilton, R. L. Swain and E. F. Kelly. The Surgeon General of the Service and others concerned with the enforcement of the act were assured of the complete coöperation of the ASSOCIATION in their work. Dr. Swain submitted a paper emphasizing the possibility of abuse of the exempt narcotics because their distribution was not well regulated.

The discussions were very instructive and brought out the necessity for closer coöperation between those charged by law with the importation, manufacture, distribution, dispensing and administration of narcotics and emphasized the extensive efforts being made to curtail the use of narcotics in illness and to replace them by non-habit forming drugs as rapidly as possible.

The following six procedures were worked out by the Conference:

Complete analysis of hospital records with a request that the American Medical Association coöperate in studying normal medical and scientific requirements.

Detailed scanning of prescriptions to determine ill-advised dispensing of narcotics.

Analysis of records of dispensing physicians.

Analysis, with the assistance of the AMERICAN PHARMACEUTICAL ASSOCIATION, of sale and use of so-called exempt preparations, sold for medical purposes without prescription.

Field studies of morbidity and mortality with a view to forecasting tentatively the amount and character of sickness to be expected.

An educational program through physicians and their clientele, toward reducing the demand for narcotic drugs in illness.

The ASSOCIATION will continue its coöperation in this very important effort.

National Advisory Health Council.—Although the request of this ASSOCIATION and a number of other pharmaceutical organizations was brought to the attention of the Surgeon General of the Public Health Service, a pharmacist was not included among the members of the National Advisory Health Council provided for under the Parker Bill. The resolution on this subject should be re-adopted to cover future vacancies in the Council as Pharmacy should certainly be represented.

Representation at State and National Meetings.—The ASSOCIATION was represented at a larger number of these meetings during this ASSOCIATION year than ever before. President Christensen has coöperated to a wonderful extent in this work and his attendance has increased interest in the ASSOCIATION and what it is doing for pharmacy. The exceptionally long year has given President Christensen an opportunity in this connection not open to most presidents and he had made splendid use of it. We are indebted to President-Elect Adams, to Editor Eberle, to Chairman Hilton and to other officers and members for their coöperation in this important phase of our work.

Our representatives were shown every courtesy and their reception was indicative of the closer relations existing between the A. PH. A. and other pharmaceutical organizations.

Headquarters Building.—The president and the chairman of the Committee on Headquarters Building will discuss this subject in detail and explain the progress made. Although building operations have been delayed, the work in connection with the project which the Secretary's office has handled has been greater and more exacting. Our need for the building and its equipment is becoming pressing and we cannot render the service we should in the present overcrowded quarters. Every development emphasizes the wonderful possibilities of the institution we are ready to erect and which undoubtedly will contribute to pharmaceutical recognition and progress more than any movement heretofore undertaken by the ASSOCIATION.

Membership.—The total membership on June 30, 1931, was slightly lower than on April 30, 1930. The receipts from dues in 1930 was about fifteen per cent lower than in 1929 and we were fortunate to keep the loss to such a low figure considering the conditions. The receipts from dues for the first six months of 1931 were surprisingly good and were within four per cent of equalling the total for the high year of 1929. For this encouraging result we are indebted to our members and to our Membership Committee.

Bills for dues are sent out in December of each year and statements follow monthly beginning February first.

Since the last meeting 173 members have resigned, 374 have been suspended for non-payment of dues and the deaths of 68 have been reported. In the same period 2 have been elected Life Members, 500 have been elected to membership with the payment of dues and 29 through subscription to the Headquarters Building Fund.

The total membership is approximately 4700 of which 170 are Life Members and 18 Honorary Members.

Five members have become Life Members through the payment of dues for thirty-seven consecutive years:

W. H. Bradbury, Washington, D. C.
Addison Dimmitt, Louisville, Ky.
W. H. Hover, Denver, Colo.
W. C. Powell, Snow Hill, Md.
William Votteler, Louisville, Ky.

and 8 through fixed payments in accordance with the By-Laws:

Charles E. Miller, Fort Wayne, Ind.
Gustave Bardfeld, Woodhaven, L. I., N. Y.
Parker Cook, Baltimore, Md.
F. W. Dickson, Philadelphia, Pa.
Daniel J. Fink, Holdredge, Nebr.
L. E. Bote, Portsmouth, N. H.
Morris Lipetz, New York, N. Y.
J. C. Van Antwerp, Mobile, Ala.

The report of the Committee on Membership will give additional information.

Local Branches.—The majority of the Local Branches have had good programs during the year and have contributed materially to the progress of the ASSOCIATION.

Student Branches.—Additional Student Branches have been established under the changes in the By-Laws adopted at the Baltimore Meeting at the Pittsburgh College of Pharmacy, the School of Pharmacy of the State College of Washington and the School of Pharmacy State College of South Dakota. Student Branches are being organized in two other schools and it is hoped that this movement will rapidly spread to other schools and colleges.

The Council approved the remission of two dollars to the branch for each dues paid student member who is an associate member of the ASSOCIATION during his or her attendance at the school.

Receipts of the Secretary's Office.—Attached are detailed financial statements of the receipts from January 1 to June 30, 1931, from Dues, the JOURNAL, the National Formulary, the Pharmaceutical Recipe Book, Bulletins, PROCEEDINGS, YEAR BOOKS, Badges and Bars, Buttons and Pins and Miscellaneous Items. Remittances to the treasurer and the balance on hand are also set out.

These attached reports also give detailed information in reference to the printing, binding and sale of the National Formulary and the Pharmaceutical Recipe Book.

The secretary's annual financial report for the calendar year 1930 was submitted with that of the treasurer, and audited as provided for in the By-Laws.

SUMMARY OF RECEIPTS AND REMITTANCES, SECRETARY'S OFFICE, JANUARY 1 TO JUNE 30, 1931.

Receipts by Secretary.

Dues:		
Membership only	$ 120.00	
Membership and JOURNAL, 1929	15.00	
Membership and JOURNAL, 1930	337.50	
Membership and JOURNAL, 1931	8,534.25	
Membership and JOURNAL, 1932	74.00	
Membership and JOURNAL, 1933	5.00	
	$ 9,085.75	
JOURNAL	5,008.77	
National Formulary	3,129.60	
Recipe Book	2,438.06	
YEAR BOOKS	189.70	
Bulletins	6.90	
Interest on Deposit	25.19	
Total Receipts		$ 19,883.97

Remittances to Treasurer.

Jan. 23, 1931, Check No. 102	$ 1,622.42	
Feb. 28, 1931, Check No. 103	4,266.57	
Mar. 31, 1931, Check No. 104	4,790.38	
April 30, 1931, Check No. 105	2,902.22	
June 2, 1931, Check No. 106	1,707.84	
June 29, 1931, Check No. 107	4,066.19	$ 19,355.62
Balance on Deposit, Baltimore Trust Co.		$ 528.35

NATIONAL FORMULARY.

RECEIPTS AND DISBURSEMENTS ON ACCOUNT N. F. V, JANUARY 1 TO DECEMBER 31, 1930.

Receipts.

Sales for quarter ending March 1, 1930	$ 2,467.20	
Use of text to March 1, 1930	10.00	
Sales for quarter ending June 1, 1930	1,503.90	
Sales for quarter ending September 1, 1930	2,008.80	
Sales for quarter ending December 1, 1930	3,930.15	
Use of text to December 1, 1930	20.00	$ 9,940.05

Disbursements.

E. N. Gathercoal, General and Office Expenses	$ 650.82
E. N. Gathercoal, Traveling Expenses	227.50
Pilcher-Hamilton-Daily Co., Binders and Paper	171.34
Samuelson Duplicating Co., Bulletins and Letterheads	185.16
Henry McKeen & Co., Insurance	12.50
L. A. Engel Press, Coupon Labels	4.75
Meeting of Committee on N. F., Cleveland, O., July 1930	1,159.80

W. T. Robinson, on Letterheads and Printing	12.50	
Journal A. Ph. A., "A Half Century of the N. F."	1.00	
National Conference on Pharmaceutical Research, Membership	25.00	
Amberg File & Index Co., File	31.50	
Dorothy Davis, Clerical Assistance	60.00	
Alfred E. Lee, Statistical Advice	40.00	
E. F. Kelly, Postage	.74	
Mack Printing Co., Series E., N. F. V.	3,540.71	$ 6,123.32

Receipts and Disbursements on Account N. F. V, January 1 to June 30, 1931.

Receipts.

Sales quarter ending March 1, 1931	$ 1,725.60	
Sales quarter ending June 1, 1931	1,404.00	$ 3,129.60

Disbursements.

Journal A. Ph. A., Reprints	$ 48.16	
E. N. Gathercoal, Chairman, Expenses	453.65	
E. P. Douglas, Printing	120.60	
William Heim	28.00	
Samuelson Duplicating Company, Bulletins	135.75	
Pilcher-Hamilton Daily Company	60.79	$ 846.95

Summary of Receipts and Disbursements on Account of N. F. V.

Receipts.

1926	$45,318.21	
1927	17,460.75	
1928	14,565.15	
1929	12,718.40	
1930	9,940.05	
1931 (to June 30)	3,129.60	
Total Receipts		$103,132.16

Disbursements.

1919–1920	$ 1,038.89	
1921	1,169.98	
1922	404.21	
1923	227.72	
1924	95.59	
1925	236.30	
1926	20,857.09	
1927	8,389.38	
1928	3,560.41	
1929	3,556.60	
1930	6,123.32	
1931 (to June 30)	846.95	
Total Disbursements		$ 46,506.44

Summary of Sales of N. F. V—January 1 to December 31, 1930.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Rec'd. by secretary.
Mar. 1, 1930	Buckram	1024	$2.40	$2457.60	
	Leather	2	4.80	9.60	$2,467.20

June 1, 1930	Buckram	624	2.40	$1497.60	
	Leather	1	4.80	4.80	1,502.40
Sept. 1, 1930	Buckram	829	2.40	$1989.60	
	Leather	4	4.80	19.20	2,008.80
Dec. 1, 1930	Buckram	1637	2.40	$3928.80	
	Leather	0			3,928.80
Total Sales for 1930					$9,907.20

SUMMARY OF SALES OF N. F. V—JANUARY 1 TO JUNE 1, 1931.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Recd. by secretary.
Mar. 1, 1931	Buckram	719	$2.40	$1725.60	$1,725.60
	Leather	0			
June 1, 1931	Buckram	581	2.40	1394.40	
	Leather	2	4.80	9.60	1,404.00
Total Sales for 1931 (to June 1)					$3,129.60

SUMMARY OF COPIES OF N. F. V—PRINTED AND BOUND TO JUNE 1, 1931.

Series.	Buckram.	Leather.	Total.
A	19,561	500	20,061
B	10,023	...	10,023
C	5,000	...	5,000
D	5,000	...	5,000
E	5,000	...	5,000
	44,584	500	45,084

SUMMARY OF COPIES OF N. F. V—DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT COMPANY TO JUNE 1, 1931.

	Buckram.	Leather.	Total.
Copies used in copyrighting and for complimentary distribution through the Mack Printing Co.	33	12	45
Copies distributed complimentary through the Chemical Catalog Co.	32	...	32
Copies sold by the Chemical Catalog Co.	18,021	107	18,128
Copies distributed complimentary through J. B. Lippincott Co.	11	...	11
Copies sold by J. B. Lippincott Co.	23,975	29	24,004
Copies held in stock by J. B. Lippincott Co.	2,512	352	2,864
	44,584	500	45,084

PHARMACEUTICAL RECIPE BOOK—SUMMARY OF RECEIPTS AND DISBURSEMENTS, P. R. B. I.

Receipts.

1929	$5256.00	
1930	1920.98	
1931 (to June 1)	2438.06	
Total		$ 9,615.04

Disbursements.

1917	$ 10.50
1918	19.26
1919	.....
1920	1.40
1921	23.98
1922	42.93
1923	.....
1924	470.70
1925	572.47
1926	336.38
1927	95.08
1928	766.66
1929	9838.65
1930	51.00
1931 (to June 1)	.....
Total	$ 12,229.01

SUMMARY OF SALES OF P. R. B. I—JANUARY 1 TO DECEMBER 31, 1930.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Rec'd. by secretary.
Mar. 1, 1930	Buckram	218	$2.78	$ 606.04	$ 606.04
June 1, 1930	Buckram	90	2.78	250.20	250.20
Sept. 1, 1930	Buckram	205	2.78	569.90	569.90
Dec. 1, 1930	Buckram	178	2.78	494.84	494.84
Total					$1,920.98

SUMMARY OF SALES OF P. R. B. I—JANUARY 1 TO JUNE 1, 1931.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Rec'd. by secretary.
Mar. 1, 1931	Buckram	527	$2.78	$1,465.06	$1,465.06
June 1, 1931	Buckram	350	2.78	973.00	973.00
Total					$2,438.06

SUMMARY OF COPIES OF P. R. B. I—PRINTED AND BOUND TO JUNE 1, 1931.

	Buckram.
Series A	5000

SUMMARY OF COPIES OF P. R. B. I DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT CO. TO JUNE 1, 1931.

Copies distributed complimentary	89
Copies sold	3466
Copies held in stock	1445
Total	5000

ACCOUNT OF YEAR BOOKS, PROCEEDINGS, BULLETINS.

1. Sales:		2. Expenses:	
1930	$1055.47	1930	$5001.04
1931 (to June 30)	196.60	1931 (to June 30)	874.31
Total	$1252.07	Total	$5875.35

E. F. KELLY, *Secretary.*

REPORT OF THE TREASURER OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, C. W. HOLTON, TREASURER, JANUARY 1 TO JUNE 30, 1931.

PROPERTY AND FUNDS OF THE ASSOCIATION.

	April 30, 1930.	June 30, 1931.
Current:		
Savings and Checking Accounts	$ 1,660.23	$ 11,871.17
Secretary's Account, Baltimore Trust Co.	3,169.84	528.35
Total	$ 4,830.07	$ 12,399.52
Permanent:		
Endowment	$ 13,201.18	$ 13,765.86
Centennial	5,068.48	5,262.91
Ebert Legacy	7,396.26	7,506.96
Ebert Prize	1,097.94	1,039.04
Life Membership	38,314.07	40,316.33
Endowed Membership	.....	125.00
Research	55,063.39	61,461.80
Headquarters Building, Bonds and Cash	386,187.29	307,397.45
Headquarters Building, Property	92,853.33	194,507.37
Total	$599,181.94	$631,382.72
Trust:		
Procter Monument	$ 14,938.77	$ 15,759.82
Remington Honor Medal	1,339.68	1,353.93
Total	$ 16,278.45	$ 17,113.75
Summary:		
Assets	$604,012.01	$643,782.24
Held in Trust	16,278.45	17,113.75
Total	$620,290.46	$660,895.99
Increase April 30, 1930 to June 30, 1931		$ 40,605.53

SECURITIES, PROPERTY AND CASH HELD FOR THE ASSOCIATION AND FOR THE TRUST FUNDS, JUNE 30, 1931.

Securities:		
Liberty Bonds, 4th issue, 4¼%	$ 44,500.00	
State of Massachusetts Bonds, 3%	14,000.00	
State of Tennessee Bonds, 4½%	3,000.00	
State of Illinois Bonds, 4%	5,000.00	
State of North Carolina Bonds, 4½%	7,000.00	
City of Baltimore, Md., Bonds, 4%	40,000.00	
City of Chattanooga, Tenn., Bonds, 4½%	7,000.00	
City of Dallas, Texas, Bonds, 4½%	11,000.00	
City of Newark, N. J., Bonds, 4%	9,000.00	
City of Paterson, N. J., 4½%	1,000.00	
Chicago, Milwaukee, St. Paul and Pacific R. R. Co., 5%	200.00	$141,700.00
Property:		
Lots 3, 4, 5, 7, 12, 13, 14, 15, 16, 17, 801 and 802, Square 62, Washington, D. C.	$230,907.37	
Less Mortgage on Lot No. 7	36,400.00	194,507.37

Cash:

Boston Penny Savings Bank, Boston, Mass., Savings Account, 4% compounded semi-annually	$ 372.41	
Merchants & Newark Trust Co., Newark, N. J., Checking Account, 3% compounded monthly	11,510.17	
Baltimore Trust Co., Baltimore, Md., Checking Account, 2½% compounded monthly	5,808.59	
Drovers & Mechanics National Bank, Baltimore, Md., Savings Account, 4% compounded semi-annually	306,997.45	324,688.62
Total		$660,895.99

The property entry represents the actual cost of the site in Washington, D. C., for the Headquarters Building including recording, insurance of title and other incidental charges. Record should be made of the fact that the original deposit on the site, amounting to $5000.00, was paid by Dr. H. A. B. Dunning personally and credited to his subscription, and therefore this amount does not appear in the bank deposits of the Headquarters Building Fund although it is included in the total of collections for the fund.

The net total of subscriptions to the Headquarters Building Fund on June 30, 1931, was $817,156.43 and the total of collections, including the $5000 deposit toward the purchase of the site made by Dr. H. A. B. Dunning which was credited to his subscription, was $501,904.82. The Chairman of the Campaign Committee will give further details in his annual report.

The campaign has cost in total $60,043.14, of which amount $13,023.94 was spent in 1924, $11,944.05 in 1925, $10,007.06 in 1926, $9297.31 in 1927, $10,627.34 in 1928, $3333.61 in 1929, $1031.25 in 1930, and $778.58 to June 30, 1931. The interest received from the fund was $1164.91 in 1924, $4932.31 in 1925, $7587.42 in 1926, $9470.44 in 1927, $8675.14 in 1928, $11,-639.96 in 1929, $15,278.45 in 1930, and $6572.10 to June 30, 1931, a total of $65,320.73, leaving an actual surplus of $5277.59. To this should be added the special contribution of $1000.00 by the Armand Company, making the total surplus $6277.59. The net cost of the campaign has been paid from the current funds of the ASSOCIATION and the interest and all collections have been used for the purchase of the site, to pay taxes and insurance, or are on deposit.

The Secretary's report will show receipts from Dues, the JOURNAL, the National Formulary, Recipe Book, YEAR BOOKS, PROCEEDINGS, Bulletins, Badges & Bars, Buttons and Pins and Miscellaneous Items, which are collected by him and deposited in the Secretary's account in the Baltimore Trust Company. These receipts are transferred by check, accompanied by itemized deposit slips, to the ASSOCIATION's checking account in the Merchants and Newark Trust Company from which all budget expenses are paid by voucher check.

The annual report of the Treasurer for the calendar year 1930 was audited and approved by W. Albert Johnson & Co.—the auditors approved by the Council. A summary of this report, together with the report of the auditors, appears in the JOURNAL for February 1931 pages 183–186, and both reports will be published in full in the next YEAR BOOK.

Respectfully submitted,

C. W. HOLTON, *Treasurer.*

It was moved, seconded and carried that these reports be received and published in the minutes of the ASSOCIATION.

President Christensen then called for a report of the House of Delegates which was presented verbally by Chairman C. B. Jordan. He stated that "a large representation of delegates were present at the First Session of the House of Delegates. Fraternal delegates were received and thereafter the Chairman presented his address. The annual report of the Chairman of the Council was presented by Chairman Hilton and several resolutions, reports and other communications were read.

"The following members were appointed on the Committee on Resolutions:

Chairman, R. L. Swain, Maryland; J. W. Slocum, Iowa; Townes R. Leigh, Florida; L. L. Walton, Pennsylvania; F. V. McCullough, Indiana; W. E. Bingham, Alabama; G. I. Curry, Kentucky; C. V. Netz, Minnesota; R. C. Wilson, Georgia; C. E. Caspari, Missouri.

"The Committee on Nominations was appointed as follows: *Chairman*, M. N. Ford, Ohio; H. H. Schaefer, New York; E. P. Stout, Michigan; Charles J. Clayton, Colorado; E. R. Serles, South Dakota; George Judisch, Iowa; C. V. Nichols, Oklahoma; W. L. Lyle, Virginia; P. H. Costello, North Dakota."

On motion duly seconded the report was received for publication.

President Christensen requested First Vice-President Walter D. Adams to take the chair during the reading of the President's address. The Vice-President gave the honor of presiding to the Second Vice-President, D. B. R. Johnson. The latter, after making brief remarks relative to Miami hospitality, called for the reading of the President's address. (The address of President Christensen will be found on pages 795 to 806 in the August JOURNAL.)

Chairman Johnson stated that the report would be referred to the Committee on Resolutions.

President Christensen resumed the chair and introduced Dr. J. J. Durrett of the U. S. Food and Drug Administration. He delivered an address on the U. S. P. and N. F. as standards under the Pure Food and Drugs Act. It is printed in the August number of the JOURNAL on pages 856 to 859. President Christensen thanked Dr. Durrett for his instructive and interesting address. He then introduced Colonel A. D. Tuttle, of the Medical Department of the U. S. Army, who spoke on "Pharmaceutical Service in the Medical Department of the Army." (Address and comment printed preceding Association Business.)

President Christensen stated that the next number of the program was an address by Commissioner James M. Doran, who could not be present, and called on Dr. H. W. Moore to speak for him. (Address to be printed in a succeeding issue of the JOURNAL.)

President Christensen thanked Dr. Moore and asked him to convey the greetings of the ASSOCIATION to Dr. Doran.

President Christensen announced the next number of the program as "Limitations of the Sale and Use of Narcotics," assigned to Commissioner Anslinger but owing to his absence Mr. Alfred L. Tennyson spoke for him. He said in part:

LIMITATIONS OF THE SALE AND USE OF NARCOTICS.

BY ALFRED L. TENNYSON.

"I feel sure that the subject which I am going to speak on to-day is one which will prove interesting to you, because I think all of you are concerned with the selling of narcotics. However, perhaps, you are most of all concerned with the administration of the Harrison Narcotic Law. Therefore, at the outset I want to say that the principal concern of the Narcotic Bureau is to prevent the smuggling of drugs into this country from Europe and Asia where are located the main sources of supply for the entire world. In this country there are only four or five manufacturers of narcotic drugs, and these manufacturers are coöperating finely with the Bureau. Last year on a certain steamship we discovered 17,500 ounces of morphine that certain smugglers were attempting to bring into the country. That is our principal problem. However, I do not want to create the impression that we have not a secondary problem with respect to druggists and physicians. I am, however, glad to say that we are receiving very good coöperation from the vast majority of the druggists of the country. You, undoubtedly, will be glad to know that out of over 60,000 registered pharmacists and 200,000 physicians in the United States under the Harrison Law, we, in 1930, were obliged to prosecute only 211 for violation of the law. This is a very small percentage and speaks highly for the medical and pharmaceutical professions. It was also pleasing to the Bureau to obtain 200 convictions in these cases just mentioned. So far as the average pharmacist is concerned, we believe that he sticks pretty close to the line and observes the law as best he can. We are very glad to note that the pharmacists are living up to the restrictions imposed upon them by the Harrison Law, and on account of this fact it will not be very difficult for us to catch the few who violate the law.

"Mr. Anslinger was unable to attend this meeting, although I know he very much desired to be here. His absence is due to the fact that he is in Europe on official business as American Delegate to the Conference on limitation of the manufacture of narcotic drugs. The agreement reached by this convention is, in the opinions of the State Department and the officials of the Narcotic Bureau, one of the greatest steps forward, from an international angle, that has taken place since the Hague Conference of 1912. The narcotic drugs are to be divided into two classes;

the first class will include morphine and cocaine; the second class opium, heroine and perhaps some others. At the Conference, the two groups of drugs will be outlined in detail. There is a limitation placed on their manufacture. Every year each country must give an estimate to a central board in Geneva of the quantity necessary for its local needs. This estimate must be furnished before August 1st of each year. Therefore, so far as manufacturing is concerned, the supply for each country will be limited to their estimate. Of course, there is a provision for making a supplementary request for a further supply in case of an emergency. When we make an estimate, naturally we will be expected to put by the quantity we require, and to see to it that our manufacturers do not exceed the maximum limit allowed them. The Narcotic Bureau wishes to solicit the coöperation of each and every member of this ASSOCIATION. I cannot say at this time when this agreement will go into effect. It may take a year or two before this is brought about. Insofar as the United States is concerned, of course, it does not affect us a great deal because we are conforming to it right now. Each year in Washington we have a conference with the various manufacturers, who send their representatives, and we go over the whole situation with them. With the aid of the Public Health Service, we are able to tell just how much will be required during the following year to satisfy the reasonable and legitimate requirements of this country.

"Our export of narcotic drugs is very small and is limited mostly to pharmaceutical preparations. As a consequence the export business of narcotics does not exceed 500 pounds a year. Our supply is barely sufficient to cover our own domestic medical requirements.

"We believe that at this Geneva Convention the United States has achieved a great victory. So far as we are concerned, we do not believe it will place any additional burden on us because we are already observing the rules as now put in force by the Convention. Our greatest work is and will continue to be that of preventing the smuggling of narcotic drugs into the country. You can readily understand that it is very difficult for a force of 300 agents to do this, but we are doing, and will continue to do our very best with the facilities we have to prevent smuggling.

"We earnestly ask you to coöperate to the fullest extent with the Bureau so that we will be able to confine most of our efforts to the prevention of smuggling. We are very appreciative of your attendance at the conferences of the Bureau, and very gratefully appreciate this coöperation, and assure you that we will do our best at all times to coöperate with you. I thank you."

J. W. Slocum inquired why the Government gave narcotic permits to unregistered pharmacists and unregistered owners of drug stores. Mr. Tennyson replied that, unfortunately, under the law, the Federal Government cannot interfere with the rights of states to license citizens to conduct a legal business. He said, "when a state grants a license to one of its citizens to operate a drug store and he applies to the Narcotic Bureau for a permit to sell narcotics, that the Department is obliged to grant him the permit unless the applicant had previously been convicted of violating the Harrison Law. The Department is endeavoring to secure the coöperation of the states in revoking the license of pharmacists who have been convicted of violation of the narcotic law. The difficulty is that the Department cannot refuse to grant a permit to the pharmacist who has been licensed by his own state to sell drugs."

President Christensen called on Dr. James H. Beal who spoke in part as follows:

"The Government, in order to prevent the Harrison Act from being declared unconstitutional passed it as a revenue measure. Under the constitution of the United States, the Government has no authority to dictate to a state that it cannot license its citizens to conduct a certain business that under the laws of said states is perfectly legal. This would be contrary to the Bill of Rights of the constitution and that is why the Harrison Act was enacted as a revenue measure." Dr. Beal said "he was chairman of the Committee on the Harrison Act which helped to formulate the language of the law. In this, the Committee had the assistance of the best legal advice obtainable and it was found that there was no way by which a person could be restricted, by an act of Congress, from conducting his business in his own state in accordance with the license laws of that state. The Federal Government does not say, 'if you pay us so much money as a license fee we will allow you to sell narcotics;' but it does say, 'if you do sell narcotics you must pay us so much tax on the narcotic sales.' By having the authority to collect taxes the Government has the authority to send one of its inspectors into your store to investigate if you are complying with the provisions of the Act."

Secretary Kelly stated that at the meeting of the Council on Monday the annual report of the Committee on Proprietary Medicines was presented by the Chairman, Dr. James H. Beal,

and on account of the importance of this report it was unanimously voted that it should be presented at this General Session of the ASSOCIATION by Chairman Beal.

Chairman Beal stated that on account of the lateness of the hour he moved that the report be referred to the House of Delegates and it was so voted.

A motion to adjourn the First General Session was carried.

SECOND GENERAL SESSION.

The Second General Session of the AMERICAN PHARMACEUTICAL ASSOCIATION was convened by President H. C. Christensen at 2:00 P.M., Thursday, July 30th.

President Christensen called for the reading of the minutes of the First General Session by Secretary E. F. Kelly (this report is omitted here, because it is represented by the preceding minutes). The minutes were approved.

Greetings were read from the Louisiana Pharmaceutical Association.

Secretary E. F. Kelly read a report of the House of Delegates (this report is omitted because it is represented by the minutes of the House of Delegates published in this issue of the JOURNAL). On motion duly seconded the report was accepted.

President Christensen stated that the paper by President O. U. Sisson of the Chicago Retail Druggists Association would be read by E. N. Gathercoal as it was impossible for the author to be present. The paper follows.

U. S. P. AND N. F. PROPAGANDA.

BY O. U. SISSON.*

Feeling that a picture of our U. S. P. Committee in action would be helpful to the cause of Pharmacy, I will after a few generalities confine my message to a complete and successful method of procedure on the most important phase of the field of Pharmacy, namely medico-pharmaceutical fellowship, coöperating, and featuring the known U. S. P., N. F. and N. N. R. standard preparations.

Strange to say there are those of narrow vision or selfish interest to whom the value of this work is not clear, yet their every return is an increased profit obtained by the reflected respect created by their connection with official and recognized drugs.

Over a period of ten years the personnel of the medical profession is largely changed by reason of newly licensed Doctors of Medicine who are the only men properly qualified to prescribe drugs in the treatment of human ailments.

These physicians come from colleges that devote only 2% or 100 hours of their curriculum to pharmacology, therapeutics and materia medica and they must therefore get their drug information wherever they can. It is very necessary that we of the pharmaceutical profession take up the completion of their drug education, along the lines of our standards for drugs, namely, the U. S. P. and N. F. sponsored by an Act of Congress and the N. N. R. by the American Medical Association.

The first problem is approval of such program by the medical group of a locality. This is obtained best by conducting and presenting a local survey showing the possible reduction in cost of medical care by use of U. S. P. and N. F. items in preference to higher priced proprietary items alleged to represent the same therapeutic action. Further, its partial solution of the *self medication evil* is most worthy of consideration.

Approval having been obtained, a committee from the medical society is requested (if possible choose physicians who were formerly pharmacists) to coöperate with the U. S. P. Pharmacy Committee, said joint committee to pass on all releases for publication or to approve programs. Leading physicians and pharmacists should and will gladly prepare and give programs to groups of physicians and pharmacists gathered in fellowship meetings, and from their ripened experience prepare articles and sanction their publication in medical and pharmaceutical journals. These articles should be of an educational nature, practical, not of the essay type, and should form a basis for professional exchange of ideas between the members of the two professions in their daily contact.

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* President of the Chicago Retail Druggists' Association.

The early release in the campaign should give the result of surveys. This information should consist of actual facts, not mere assertions, but made over a period of time sufficient to make them accurate and reliable. The net result will show that the aggregate of small amounts saved make an astounding total, worthy of studied effort for correcting evils produced by too much commercialism, and in the production of greater profit from reduced inventory and added professional service fees.

The programs presented to the joint groups are given by medical and pharmaceutical speakers. They are of a post-graduate nature taken from actual experiences. Displays of preparations and chart talks on formulas are also a part of the programs which are often preceded by a fellowship dinner, which encourages friendly exchange of matters of professional and mutual interest.

Of concern to pharmacy is the local group movement. Where it is impossible to get all to one meeting, the territory is sub-divided similarly to that of the medical branches and these local group meetings are held monthly at hospitals and Community halls which are furnished free, since this work is of a public health character. Annually, a president and a secretary are selected, also membership, finance and program committees. Colleges of pharmacy, and legitimate pharmaceutical houses are given opportunities to furnish programs, covering scientific and professional material, partaking only of an educational nature. To make the programs interesting some merchandising features are occasionally presented.

The advance in drug research, makes necessary a continued educational effort, encouraged by a post-graduate course, each month, given by the U. S. P. Committee to its local groups.

The articles for release are carefully chosen as they feature the use of drugs in proper combinations for specific ailments and point out the unwarranted taking over of the compounding rights of the Registered Pharmacists by proprietary interests that encourage self-medication. They expose the methods used by misguided philanthropists and money lenders through public clinics and dispensaries and the un-American attitude of corporate interests in control of the manufacture and distribution of drugs, medicines and proprietaries wherein pharmacy does not direct its health program in behalf of public welfare. These interests through advertising seek to enrich the unscrupulous commercialists, at the expense of a suffering humanity, to the ultimate destruction of pharmacy as a profession, and belittling the medical profession.

Our investigations disclosed conditions known to exist but far more serious than realized—I refer to prescription pricing. Variance in prices in prescription files ranged from $15 to $50 per hundred. Antiquated methods of pricing; lack of realization of the time element; price consciousness on the part of the pharmacist; failure to teach the public that price is a secondary consideration where drugs are used for treatment of human ailments, and a neglected professional conception all contributed to this deplorable condition.

As a basis for an equitable price schedule for prescriptions, covering every phase of compounding and dispensing, our U. S. P., N. F. and N. N. R. Committee selected one that had been in operation in a very successful ethical pharmacy for over ten years. This schedule is complete in every detail, it classifies the various preparations in groups—such as ointments, liquids, capsules, etc.—to be compounded or ready for dispensing; it indicates charges to be made for professional services in the compounding of prescriptions, based on the time required for filling certain types of prescriptions. In addition thereto this schedule provides a complete system covering the cost of material, containers and general overhead. This schedule is valuable since it not only brings proper returns but the public meets with a uniform and business-like condition when presenting a prescription for filling to the community pharmacist. The doctors, too, are grateful, because of the uniformity and fairness of this schedule.

The "New and Nonofficial Remedies" released annually in the 10-year interim of the publication of our standards (the U. S. P. and N. F.) is our great salvation. First it provides a channel through which new remedies can be released, with the assurance that they are offered in good faith, and with no false claims. It provides the only means of introducing a new remedy that is protected from unfair practice in its offering to the public and makes possible true research and true clinical experimentation, which must exist yet must be directed exclusively by medicine and pharmacy and in such a manner as to prohibit unwarranted experimentation on human life and, if consulted, will win for medicine and pharmacy the commendation of the thinking public.

This is a brief outline of the work done by the U. S. P., N. F. and N. N. R. Committee of the C. R. D. A. It clearly indicates what can be accomplished in every city or county in the United

States, if only a few pharmacists will fulfil their obligations to their honorable profession and to the public.

Pharmacy is a profession and as such it must maintain high standards and prevent the duping of the public by patent medicine manufacturers and others interested in furthering self medication.

We, of the C. R. D. A., feel that in presenting our U. S. P., N. F. and N. N. R. program to the pharmacists of the nation, that we have taken it out of the field of theory and made it an actuality. It can be done, and must be done. No resolutions, but real work, year in and year out, will produce results.

President Christensen stated that the paper was rather unique and he regretted that Mr. Sisson could not be present so that there might be some discussion. He called on E. N. Gathercoal for some remarks relative to the paper. He said he had the privilege of seeing the work presented by Mr. Sisson carried on and had the pleasure of speaking with him and he understood that those who are participating are obtaining good results. The effort is to bring about better coöperation with physicians in the development of prescription work. He referred to work being carried on in Pennsylvania, but in his opinion this should be taken up on a national scale in order to produce adequate results. On motion duly seconded and carried the paper was received for publication.

President Christensen then called on T. W. Delahanty of the Department of Commerce to present a report on the drug store survey now being carried on in St. Louis.

(*The paper entitled National Drug Store Merchandising Survey, is printed in another section of this issue of the Journal.*)

On motion of S. L. Hilton, duly seconded, a vote of appreciation was tendered the Department of Commerce for the valuable work that it is doing, and a rising vote of thanks was given Mr. Delahanty for presenting the subject.

William Emerich inquired relative to the number of men being employed on the survey. Mr. Delahanty replied that the number varied. There had been as many as seventy-five employed on the survey at one time and for about three weeks there were only twenty-five. He stated that there were at least that many more engaged in the national phase of the work at Washington.

R. L. Swain asked whether the data relative to prescriptions given were complete, and what proportion of it is for St. Louis. Mr. Delahanty replied that he could not tell at this time, he also stated that the subject would have to be studied further. He felt confident that this was necessary after hearing the paper by Messrs. Monell and Brown.

Mr. Delahanty stated that they are giving out some preliminary reports but the actual results would not be given out until October.

R. L. Swain asked whether it would be possible that the prescription study be made to include three hundred drug stores. Mr. Delahanty replied that if the ASSOCIATION is interested sufficiently, the Secretary might be requested to communicate with the Department and this would probably be taken care of. He stated that the work he had been doing was preparatory and he was pleased to note that Professor Olsen would assist in some part of the work. Manufacturers, wholesalers, colleges of pharmacy and others had been invited to share in the work, and he said that it would please him to have information from the ASSOCIATION which would be helpful in their work. After some further discussion it was moved and seconded and carried that the report be received for publication.

President Christensen called for the report of the Headquarters Building Campaign Committee. It was presented by S. L. Hilton in the absence of Chairman Dunning. The report follows:

REPORT OF THE CHAIRMAN OF THE HEADQUARTERS BUILDING SITE AND PLANS COMMITTEE.

It is a real regret to me that I cannot attend the meeting and present in person this combined report as Chairman of the three committees which have the completion of the American Institute of Pharmacy in charge.

At the Baltimore meeting, we reported that the design for the building and grounds had been approved; that the working plans could be completed within a short time; that we had agreements and the funds for the purchase of the additional property necessary for the site; that

building operations were delayed (1) by the failure of the Government to complete its plans for the improvement of the section of which our site is a part, and (2) by the necessity to secure authority of Congress for the closing of Upper Water Street which crosses our lot and in the bed of which our building would be located to line with the Academy of Sciences as desired by the Commission of Fine Arts; and that the subscriptions totaled $817,653.30 and the collections $480,184.57.

This report will record the developments since that time and the progress that has been made toward bringing our project to completion. The period since the last report has called for constant attention and watchfulness on the part of your representatives and a great deal of personal attention—especially on the part of Architect Pope, Secretary Kelly and myself. Our site is at the western apex of the triangle bounded by Constitution Avenue, Seventeenth Street and New York Avenue, an area which has now been taken over or will be taken over for Government buildings with the exception of the sites of the Corcoran Art Gallery, the American Red Cross, the Daughters of the American Revolution and the Pan American Union, facing on Seventeenth Street, and the sites of the National Academy of Sciences and the American Institute of Pharmacy facing on Constitution Avenue, formerly B Street, and the Mall. The area between our site and the Potomac River to the West is the location of the new Naval Hospital Group. To the East of our site, and facing on Constitution Avenue, will be the sites of the National Academy of Sciences now erected, the Public Health Service and the addition to the Pan American Building with two open sites for Government buildings.

The development of plans for such an important area requires time and careful consideration. The delay, while very trying to us, is more than compensated for by the assurance that our building will be surrounded by such splendid structures and that the adjoining area will be protected against change and deterioration.

Our project has been given considerable publicity of a very helpful character during the year not only in the pharmaceutical press but also in Government publications and reports, and in the daily press of Washington, Baltimore and other centers. Particular attention is called to the annual report of the Commission of Fine Arts and to an article in the Magazine Section of the Baltimore Sun, copies of which are submitted with this report. Such publicity reacts favorably for Pharmacy and indicates what may be expected when the building is an actuality and the Institute of Pharmacy is functioning along the lines we have determined upon.

In the fall of 1930, we were requested to support a measure giving the Commissioners of the District of Columbia the power to close unused streets and alleys rather than to support a separate bill closing Upper Water Street in our block. The Government divisions interested in the opening and closing of streets had drawn up this general measure which would have given the Commissioners the power now resting in Congress alone. This measure passed the Senate but failed in the House, because of changes in the plans of the Government referred to below.

In December 1930, representatives of our architect, Mr. Pope, Secretary Kelly and I met with the Commission of Fine Arts in New York and after a thorough review of the situation, we were authorized to complete working plans of our building so that application to build could be made promptly as soon as legislation to close Water Street was enacted and we had possession of all the property required for the site.

In the meantime, the plans of the Government for the development of the triangle of which our site is a part had been further developed and it was necessary to delay building operations until the new plans can be completed as the actual location of our building on the site may be changed, in order to bring about a better grouping of the buildings facing on Constitution Avenue. The name of B Street, on which our site faces, was changed by Congress to Constitution Avenue and on account of its importance as the connecting thoroughfare from the Arlington Bridge to the Capital; its width has been made 72 feet and may be increased to 80 feet before the final plans are completed. To this time, the Government authorities have asked that our Building be erected on a line with the Academy of Sciences; it now seems probable that we will be requested to place our Building in advance of the Academy. All of these changes add to the value of our site in every way and especially give it a more commanding position in the group of imposing buildings that will face Constitution Avenue and the Mall from Seventeenth Street to the Potomac River.

In January 1931, we purchased Lots 7, 12, 13, 14 and 15 from the George Washington University for $32,936 and a mortgage for $36,400, a total of $69,336, carrying our site West to 23rd Street.

In February 1931, we purchased Lots 16, 17, 801 and 802 from Eda G. Stewart and D. E. Stephan, Attorneys, for $61,264, carrying our site East to 22nd Street.

This gives us possession of all the property we were requested to purchase with the exception of Lot 800 which is not at present necessary for the erection of our Building.

In May 1931, Mr. Pope completed the working plans for the Building and they are ready for final approval and use at any time. In June, preliminary estimates were secured from several responsible firms and the prices quoted are very favorable, showing a reduction of more than $50,000 over preliminary estimates secured in 1929. The saving will equal the cost of equipment for the building.

Everything is now ready to be submitted to the Council for final approval as soon as the Government's plans are finally decided upon, and the preliminary estimates secured show that we now have in bank sufficient cash to pay for the building and its equipment. We should receive from pledges still unpaid the sum required to endow the perpetual maintenance of the building itself.

Our project should have a million dollars for the maintenance of its activities and it is quite to be expected that this sum, or something near it, will be forthcoming, in a large measure, within the next few years, after the building is erected on the most beautiful and impressive site in Washington and, possibly, in the world.

I am confident when those men of wealth, connected with or associated with pharmacy, view the new building and begin to recognize its value to pharmacy and to the public, and begin to sense its influence for the betterment and regeneration of pharmacy, that large sums will be made available for the establishment of a maintenance fund, either during the lifetime of the donor, or as a bequest. Some few men have already promised to bequeath substantial sums and others will, undoubtedly, follow. There is no reason why these large contributions and donations should be confined to individuals alone, because there are many large pharmaceutical manufacturing concerns which should and will, I am sure, financially support this great enterprise in a larger measure than has been done when they can visualize the building in place and can understand its great value and practical opportunities for the benefit of the manufacturing pharmaceutical businesses. These prospects of large donations do not relieve the individual, however, for small contributions from large numbers of people quickly aggregate considerable sums and it is the duty of every member of the AMERICAN PHARMACEUTICAL ASSOCIATION and every member of any Pharmaceutical Association or any man connected with pharmacy to subscribe what he can. It is particularly the duty of every member of the AMERICAN PHARMACEUTICAL ASSOCIATION to keep this project constantly in the minds of other members of his calling. I would strongly recommend to those men who are members of the AMERICAN PHARMACEUTICAL ASSOCIATION, or otherwise, for that matter, who are so frequently called upon to address gatherings of pharmacists, on various occasions, that they should never fail to take advantage of the opportunity to recommend, in glowing terms, the value and possibilities of the American Institute of Pharmacy. I feel also that the drug journals should constantly keep this project before the members of the pharmaceutical profession.

While there is not a great deal of spectacular information to offer at present, yet, there is an opportunity for the journals to keep the subject alive and to educate the pharmacists to think constantly of this project and to support it. A little later the drug journals will be furnished most interesting data, which may be used as a basis of propaganda which will be most acceptable and effective. I know that our members will realize the great difficulties which their Committees have met in developing this great undertaking for the advancement, progress and welfare of pharmacy, but these same representatives are glad to say that practically every obstacle has been almost completely overcome and that there will be no doubt of a successful issue and that our new building will most certainly be completed by the end of 1932.

The accompanying financial report and audit will show that the subscriptions, with all cancellations and losses by death deducted, total $817,156 43 and the collections $501,904.82.

Your committees feel that they can thus report substantial progress.

H. A. B. DUNNING, *Chairman.*

Supplementing the report, Mr. Hilton stated that the new building of the Bureau of Public Health will be located in the section with the American Institute of Pharmacy, a favorable decision having been reached.

On motion duly seconded, and a vote, the report was received.

Chairman Ernest Coe of the Everglades National Park Association was invited by President Christensen to speak on the question of the Everglades National Park. He outlined the work that had been done thus far. He stated that the tract of land for the park comprised more than two thousand square miles and the indications were that Congress would act favorably in the matter. Following his address he presented resolutions relative to which he asked the consideration of the ASSOCIATION. The resolutions were on motion duly seconded and carried and referred to the Committee on Resolution. (See Resolution No. 34, August JOURNAL, page 811.)

President Christensen then called on Prof. C. B. Jordan for an illustrated address on Professional Pharmacy. The author read the paper and then gave a screen illustration of the statistics presented in the paper. Motion was made and seconded that the address be received for publication. (It is published elsewhere in this issue of the JOURNAL.)

E. G. Eberle expressed the hope that Dean Jordan would continue these reports from year to year as they gave a good understanding relative to the progress of pharmacy.

Secretary Kelly presented amendments to the By-Laws as follows: "That there be added to Chapter VIII of the By-Laws a new article as follows: Article IX. *Committee on Recipe Book.* The Committee on Recipe Book shall consist of twenty-five members elected by the Council. It shall be the duty of the committee to prepare revisions of the Recipe Book from time to time as the same are deemed necessary by the Council. And that present Articles IX, X and XI be numbered Articles X, XI and XII."

On motion duly seconded and carried the Second General Session was adjourned.

THIRD AND FINAL GENERAL SESSION.

The Final General Session of the A. PH. A. was called to order by President H. C. Christensen, Friday, July 31st, at 8:30 P.M. The minutes of the Second General Session were read by Secretary Kelly. (They are reported in the foregoing minutes.) On motion duly seconded and carried the minutes were approved.

Secretary Kelly then read the final report of the House of Delegates (this report is represented by the minutes of the House of Delegates).

Chairman R. L. Swain of the Committee on Resolutions presented the report of that Committee which is represented by the Resolutions printed in the August 1931 JOURNAL beginning on page 806 and ending on page 811. The report and the resolutions were on motion duly seconded and carried, adopted. (See also discussion on two resolutions in minutes of the House of Delegates.)

Secretary Kelly stated that the House of Delegates at its last session received a request from the Conference of Pharmaceutical Association Secretaries and the Conference of Pharmaceutical Law Enforcement Officials that they each be given a delegate to the House of Delegates. The House of Delegates approved this request but in order that the request be made effective it is necessary that the By-Laws of the A. PH. A. be amended. Under its By-Laws this amendment cannot be adopted until it is first acted upon in a General Session of the ASSOCIATION which at this time is impossible and therefore cannot be acted upon until the next meeting of the ASSOCIATION. He suggested that the request be laid upon the table until that time and it was so ordered.

Secretary Kelly called attention to amendments to the By-Laws presented at the Second General Session. After reading the amendments he moved their adoption. (See last action of preceding session on this page.) The motion received a second and was carried.

President Christensen stated that the next order of business was the presentation of the Ebert Prize. Chairman E. E. Swanson of the Scientific Section made the presentation. He said, in part, that it gave him great pleasure to present the Ebert prize for 1931 to Dr. H. W. Youngken for his paper on "The Pharmacognosy, Chemistry and Pharmacology of Viburnum."

In accepting the prize the recipient expressed his admiration for the work of the pharmacist, Albert E. Ebert, and expressed his appreciation for the opportunities in securing an education given him by his parents and also his appreciation of the assistance given him through the Research Committee of the A. PH. A., which made it possible for him to travel and collect the material that was essential for the proper conduct of his investigation. He also referred to the

encouragement given him by the Massachusetts College of Pharmacy and the manner in which the article appeared in the JOURNAL of the A. PH. A.

President Christensen then announced as the next order of business an illustrated address by L. E. Warren on "Pharmacy and Medicine in Ancient Egypt."

(*To be printed in a succeeding issue of the Journal.*)

President Christensen thanked the speaker on behalf of the ASSOCIATION for his excellent presentation.

The next order of business was the installation of officers. President Christensen appointed L. L. Walton to serve as installing officer. The officers-elect were conducted to the platform and introduced to the President. All of them acknowledged the honor conferred. The installing officer then presented Walter D. Adams for installation as President of the ASSOCIATION. President Christensen in well chosen words presented the badge of office and the gavel to President Adams and expressed the hope that his experience would be as interesting and pleasant as his year of office had been.

In responding President Adams said that he had not prepared an address and if he had he, probably, would have forgotten it at that moment. He was advised that there would be a meeting of the Council after the close of the session and therefore it would be expected of him to be very brief. He felt assured of the assistance of the officers and of the members of the Council. He hoped in the near future to appoint the committees and endeavor to select them in the way that would serve the ASSOCIATION best. He expressed deep appreciation of the honor conferred and hoped that he would fill the duties of the office as well as they had been performed by his predecessor. In his opinion President Christensen's administration stood out among the best. He thanked the members of the ASSOCIATION for the honor conferred and asked for their hearty coöperation during the year. President Adams then called on the retiring President, H. C. Christensen, for a few words and he again expressed his appreciation of the honor conferred and offered his services to the ASSOCIATION.

President Adams then called on the members of the Council, Ambrose Hunsberger, S. L. Hilton and Secretary Kelly. Each of them expressed their thanks and appreciation for the honor conferred and offered their services to President Adams.

President Adams then called on Editor Eberle who expressed his delight in being able to serve with one he had known for many years and he thanked the members of the ASSOCIATION for their uniform courtesy and confidence bestowed. Mr. Eberle also took the liberty of saying a few words relative to the retiring president who he said was one of the most untiring workers and made reference to the many days given to the ASSOCIATION so that he might contact the state associations with the A. PH. A. He stated that these absences from the office frequently meant many hours of extra work and time.

Ex-president Christensen stated that he could always look back on this year as one of the most pleasant experiences of his life. It had been a great pleasure to work with the officers and committees of the ASSOCIATION and to be so pleasantly associated. He stated that he had visited quite a percentage of the state associations and invariably met with cordial reception. He realized that more attention must be given to the professional side of pharmacy if pharmacy is to maintain its prestige, and it gave him a pleasure that such expressions were general at association meetings; that the professional side of pharmacy must be advanced and supported. He thanked the officers and committees and the membership for the hearty support which had been given him.

Secretary Kelly read a telegram from President Adams's co-worker in Texas, Walter Cousins, who sent congratulations for the Texas Cowboy Reunion.

Through his Texas friends President and Mrs. Adams were presented with flowers. President Adams expressed his appreciation and thanks for the beautiful remembrance and thoughtfulness of these good friends.

Chairman of the Council, S. L. Hilton, announced that the meeting of the Council would be held immediately after the adjournment of the session. A motion was made, seconded and carried that the ASSOCIATION adjourn.

The President declared the 79th annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION adjourned.

HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

ABSTRACTS OF THE MINUTES OF THE SESSIONS HELD IN COLUMBUS HOTEL, MIAMI, FLA., JULY 27–AUGUST 1, 1931.

The First Session of the House of Delegates, A. PH. A., was convened by Chairman C. B. Jordan, Tuesday, July 28th, at 1:30 P.M. The first order of business announced by the Chairman was roll call and a verification of credentials. The call of delegates showed that a quorum was present and the House was declared as organized and open for business.

No meeting of the House of Delegates having been held in the interim of the annual sessions there were no minutes to be read. The names of delegates and organizations represented, follow. The name of the organization or state is in Italics, names of delegates in capitals, and small capitals, and names of the voting delegates in bold face. Only those present are named.

The minutes of the House of Delegates are printed here and to avoid duplication in printing will also answer for the reports of the transactions made to the general sessions—the reports are abstracts of the minutes. The names of the delegates follow:

A. PH. A. SECTIONS.

Scientific—**E. E. Swanson,** Indianapolis, Ind.
Education and Legislation—**Glenn L. Jenkins,** Baltimore, Md.
Practical Pharmacy and Dispensing—**Ralph E. Terry,** Chicago, Ill.
Commercial Interests—**Joseph G. Noh,** Wichita, Kans.
Historical Pharmacy—**George D. Beal,** Pittsburgh, Pa.

A. PH. A. BRANCHES.

Baltimore—**R. L. Swain,** JOHN C. KRANTZ, JR., and GLENN L. JENKINS.
Chicago—**E. N. Gathercoal.**
Cincinnati—**Mortimer Bye.**
Detroit—**E. P. Stout,** WILBUR L. SCOVILLE, L. W. ROWE, R. T. LAKEY.
New York—**Hugo H. Schaefer,** CHARLES W. BALLARD, ROBERT S. LEHMAN.
Northern Ohio—**E. D. Davy.**
Northwestern—**Earl B. Fischer,** CHARLES V. NETZ.
Philadelphia—**Ambrose Hunsberger.**
Pittsburgh—**C. L. O'Connell,** E. C. REIF.
Pittsburgh College, Student Branch—**John Theil,** THOMAS J. CASEY, JR.
State College of Washington, Student Branch—**Hugh Vincent,** KENNETH VINCENT.

NATIONAL ASSOCIATIONS.

American Association of Colleges of Pharmacy—**Charles B. Jordan,** HUGH C. MULDOON, W. H. ZEIGLER.
American Drug Manufacturers Association—**Francis E. Bibbins.**
Federal Wholesale Druggists' Association—
National Association Boards of Pharmacy—**L. L. Walton,** JOHN W. DARGAVEL, A. L. I. WINNE.
National Association of Retail Druggists—**Julius H. Riemenschneider,** THOMAS ROACH.
National Wholesale Druggists' Association—**Joseph W. Hunter,** W. G. ALLEN, E. L. NEWCOMB.
Proprietary Association—**A. L. Murray.**

STATE ASSOCIATIONS.

Alabama—**H. E. Duncan,** W. E. BINGHAM, J. T. DUMAS.
Arkansas—**E. D. Oslin.**
California—**W. B. Philip.**
Colorado—**Charles J. Clayton,** ARTHUR D. BAKER, CHARLES F. POE.
Connecticut—**Hugh P. Beirne,** CHARLES GUSTAFSON, JR., LOUIS MONTANARO.
Delaware—**James W. Wise,** JOHN O. BOSLEY, GEORGE W. RHODES.
Florida—**James H. Beal,** WILLIAM EMERICH, N. H. HUNTER.
Illinois—**William Gray.**
Indiana—**F. V. McCullough.**
Iowa—**R. M. Gibson,** GEORGE JUDISCH, J. W. SLOCUM.
Kansas—**Percy S. Walker,** FRANK MILNE.
Kentucky—**G. L. Curry,** J. W. GAYLE, GEORGE WILHELMI.
Massachusetts—**C. Herbert Packard,** CARL G. A. HARRING.
Michigan—**Joseph Burniac.**
Minnesota—**Charles V. Netz,** EARL B. FISCHER.
Mississippi—**E. L. Hammond.**
Missouri—**H. W. Reuter,** CHARLES CASPARI, A. F. SCHLICHTING, D. V. WHITNEY.
New Hampshire—**Theodore J. Bradley.**
New York—**Jacob Diner,** CURT P. WIMMER.
North Carolina—**J. G. Beard,** E. V. ZOELLER, IRA W. ROSE.
North Dakota—**P. H. Costello.**
Ohio—**C. A. Dye,** M. N. FORD.
Oklahoma—**C. V. Nichols,** TOM ROACH, D. B. R. JOHNSON, LOYD HARRIS.
Pennsylvania—**Leonard O'Connell.**
Porto Rico—**Luis Lucas Velez.**
South Carolina—**W. H. Zeigler,** CARL M. HARMON, JOHN H. FRIERSON.
South Dakota—**H. J. Schnaidt,** G. E. SHERMAN, ROWLAND JONES.
Tennessee—**R. R. Ferrell.**
Texas—**E. B. Oliver,** HENRY F. HEIN, WALTER D. ADAMS.
Utah—**Georg F. Flashman.**
Virginia—**A. L. I. Winne,** W. L. LYLE.
West Virginia—**J. Lester Hayman.**
Wisconsin—**Henry G. Ruenzel,** G. V. KRADWELL.
Wyoming—**John B. Tripeny.**

THE COUNCIL.

H. C. Christensen, S. L. Hilton, J. H. Beal, C. E. Caspari, H. V. Arny, T. J. Bradley, W. B. Day, W. D. Adams, D. B. R. Johnson, E. F. Kelly, E. G. Eberle, A. G. DuMez, C. B. Jordan.

FRATERNAL DELEGATES.

U. S. Public Health Service—**Dr. Carl Michel.**

LOCAL ASSOCIATIONS AND COLLEGES.

San Antonio Retail Druggists Association—**Henry F. Hein.**
Kings County Pharmaceutical Society—**F. C. A. Schaefer.**
College of Pharmacy, City of New York—**H. V. Arny,** CURT P. WIMMER, H. H. RUSBY.
St. Louis College of Pharmacy—**Charles E. Caspari,** A. F. SCHLICHTING.

Joseph W. Hunter extended a welcome to Miami and on behalf of the National Wholesale Druggists' Association.

John Theil of the University of Pittsburgh College of Pharmacy, and Hugh Vincent of

the State College of Washington, School of Pharmacy, representing Student Branches, A. PH. A., were called on as representatives and welcomed by the House of Delegates.

Delegates were called on for remarks but none responded at this time.

Chairman Jordan stated that the next order of business was the reading of the Chairman's address and he requested Vice-Chairman Thomas Roach to preside during the reading. (The address of the Chairman of the House of Delegates is printed in the August number of the JOURNAL A. PH. A., beginning on page 812.) Acting Chairman Roach stated that the address would automatically be referred to the Committee on Resolutions.

Chairman Jordan resumed the Chair and announced the appointment of the Committee on Nominations, as follows:

Chairman, M. N. Ford, Ohio; H. H. Schaefer, New York; E. P. Stout, Michigan; C. J. Clayton, Colorado; E. R. Serles, South Dakota; George Judisch, Iowa; C. V. Nichols, Oklahoma; P. H. Costello, North Dakota; A. L. I. Winne, Virginia.

The following were named for the Committee on Resolutions:

Chairman, R. L. Swain, Maryland; T. R. Leigh, Florida; H. W. Reuter, Missouri; L. L. Walton, Pennsylvania; F. B. McCullough, Indiana; W. E. Bingham, Alabama; G. L. Curry, Kentucky; Earl B. Fisher, Minnesota; Robert C. Wilson, Georgia.

Chairman Jordan then announced as the next order of business the reading of the Report of the Council by Chairman S. L. Hilton. The report follows:

ANNUAL REPORT OF THE COUNCIL TO THE HOUSE OF DELEGATES.

The first and reorganization meeting of the Council for 1930–1931 was held at Baltimore, Md., on May 9, 1930, following the final General Session of the ASSOCIATION. The following officers have served for the year: *Chairman*, S. L. Hilton; *Vice-Chairman*, C. H. LaWall; *Secretary*, E. F. Kelly.

E. G. Eberle was elected Editor of the JOURNAL; A. G. DuMez, Editor of the YEAR BOOK; J. H. Beal, a member of the Commission on Proprietary Medicines for a term of five years; W. L. Scoville and J. C. Krantz, Jr., members of the Committee on Pharmaceutical Research for a term of five years each; and E. S. Rose, H. H. Rusby, E. V. Lynn and Arno Viehoever, members of the Committee on Unofficial Standards for a term of four years each, with J. C. Krantz, Jr., as *Chairman* of the Committee.

The President was authorized to make such appointments as were necessary to fill vacancies and to make additionally such appointments as may be necessary or desirable. All appointments made by the President and Chairman of the Council have appeared in the official roster in the JOURNAL.

The Chairman was authorized to appoint an Executive Committee of the Council in case the occasion should arise.

A meeting of the Council or of an Executive Committee has not been found necessary during the year and the business of the Council has, therefore, been transacted by mail in the interim. Twelve Council letters covering 74 pages and submitting one hundred and twenty-four items of business and forty-six motions have been submitted to the members of the Council and published in the JOURNAL. Reference should be made to the prompt and careful attention given to the business of the Council by its members and to the close coöperation and frequent conferences between the Secretary and the *Chairman* of the Council in furthering the work of the Association.

The following are reported as among the more important items of business transacted by mail:

The application and Constitution of By-Laws of the Western New York Branch of the A. PH. A. at Buffalo, N. Y., was approved.

The Council adopted three motions under the amendments to the By-Laws, adopted at the last annual meeting, defining an associate member, the conditions under which Student Branches are to be established and conducted and the conditions under which $2.00 of each $5.00 paid by associate members shall be remitted to the Student Branch for its expenses.

The applications and Constitution and By-Laws of the State College of Washington Student Branch of the A. PH. A. and of the State College of South Dakota Student Branch of the A. PH. A. were approved. These with the Pittsburgh College of Pharmacy Student Branches,

makes three such branches in operation and we are advised that two more are practically organized.

Two meetings of the Committee on National Formulary have been approved and held, the first at Cleveland, Ohio, on June 30 and July 1, 1930 and the second at Pocono Manor Inn, Pa., on June 29 and 30, 1931, the latter following a meeting of the Committee of Revision of the U. S. P. The cost of the first meeting was $1060.51 and of the second approximately the same.

The appointment of a National Formulary Publicity Committee of the A. PH. A. was authorized to make the N. F. better known to physicians and pharmacists and to coöperate with a similar committee of the U. S. P. and with the N. A. R. D. in this work.

An N. F. Exhibit in the Scientific Exhibit of the American Medical Association in Philadelphia in June 1931, was approved and the necessary expense authorized. The cost was $79.60.

The question of Supplements to the N. F. has been given consideration and will be referred to later.

G. H. Grommet was chosen as Local Secretary, the Hotel Columbus as the Headquarters and the week of July 27th–August 1st, as the time for the 1931 meeting at Miami.

The Council was represented at the annual Joint Meeting with the Executive Committee of the N. A. R. D. held in September 1930 in Atlantic City by Messrs. Christensen, Hilton, Eberle, LaWall, DuMez and Kelly, and the Joint Meeting for 1931 will be held in this hotel this afternoon. Many matters of mutual interest are discussed at these meetings and the contacts so made are very valuable to our Association.

The price of the Collective Index of PROCEEDINGS and YEAR BOOKS, 1903–1925 was increased to $6.50 on account of the cost of publication due in turn to the number of subjects indexed. A stock of this publication is on hand and members are requested to obtain them while available.

The resignation of Dr. H. H. Rusby as a member of the Committee on Unofficial Standards was accepted with regret and Prof. Adolph Ziefle was elected to the vacancy.

A budget of $39,210.00 for the current expenses of the ASSOCIATION for 1931 was adopted.

The accounts of the ASSOCIATION for 1930 were audited by W. A. Johnson & Co., Certified Public Accountants of Baltimore, Md., and their report with a summary of the accounts were published in the February 1931 issue of the JOURNAL. The total value of the Current, Permanent and Trust Funds and Property was $642,595.25 as compared to $593,571.22 in 1929. The complete report of the Treasurer will be printed in the YEAR BOOK as is customary.

The contract for printing and mailing the JOURNAL was awarded to the Mack Printing Company, Easton, Pa., at the same prices, and the contract for the YEAR BOOK, Volume 18 for 1929, was awarded to the Lord Baltimore Press, Baltimore, Md., at the same prices.

Theodore Hagenow was appointed as a member of the Committee on U. S. P. to fill the vacancy caused by the death of Mr. William Mittelbach.

The Council approved the purchase of Lots 7, 12, 13, 14, 15, 16, 17, 801 and 802 in Square 62, Washngton, D. C., which completes the purchase of all the property for the site of the American Institute of Pharmacy with the exception of Lot 800, which is not immediately necessary to our plans and for which we have the necessary funds.

A number of bonds from an approved list of such securities have been purchased for several of the funds.

A report from the Committee on Pharmacy Week on the sixth annual observance and the expenses involved was received and approved, and an appropriation of $250 was added to the budget for 1931 for the use of this committee. It will be recalled that the N. A. R. D. appropriates an equal amount.

An expense of not exceeding $500 was authorized to match an equal amount from the Board of Trustees of the U. S. P. for a Survey of Prescription Ingredients for use in connection with the revisions of the U. S. P. and N. F. The survey will be under the direction of Chairmen Cook and Gathercoal and the results should be very interesting to pharmacists in general. This survey will follow one already in progress to learn the total number of prescriptions filled in the U. S. A.

A number of requests for partial use of the text of National Formulary, Fifth Edition have been approved and all at the minimum charge of $5.00.

Four hundred and ninety-four applicants have been elected members with the payment

of dues and 29 through subscriptions to the Headquarters Building Fund, and two applicants have been elected life members with the payment of $100 each. Five members have become Life Members through the payment of dues for 37 consecutive years and eight through the payment of fixed sums in accordance with the By-Laws. (More members were added since this report.)

The Council approved the General Program for this meeting in Miami and will appreciate suggestions for the improvement of the program of future meetings.

The second meeting of the Council was held in Miami on Monday, July 27th at which the following business was transacted:

Dr. G. A. Burbidge of Halifax, Nova Scotia, Dr. J. J. Hofman of The Hague, Holland, and Dr. William Mair of Edinburgh, Scotland, were elected Honorary Members of the ASSOCIATION.

The Honorary President, Secretary and Treasurer of the ASSOCIATION were nominated for election by the House of Delegates and their names will be submitted in a separate communication.

A number of reports were received for the information of the Council in reference to the property, funds and publications of the ASSOCIATION and these will be published in the JOURNAL.

Respectfully submitted,

S. L. HILTON, *Chairman*
E. F. KELLY, *Secretary.*

Chairman Jordan thanked Chairman Hilton.

Secretary Kelly asked the delegates who had entered the room after the opening session to give him their names.

Local Secretary Grommet made announcements of the entertainments.

The Chairman requested that all delegates be in attendance promptly at the next meeting of the House of Delegates.

On motion the First Session of the House of Delegates was adjourned.

SECOND SESSION.

The Second Session of the House of Delegates, A. PH. A., was convened by Chairman C. B. Jordan, July 29th, at 8:00 P.M. Chairman Jordan asked all who had not reported as delegates to do so before leaving the meeting. The minutes of the First Session of the House of Delegates as read by Secretary Kelly were on motion duly seconded, adopted. (The transactions are reported in the preceding minutes.)

George D. Beal as delegate to the House of Delegates of the Section on Historical Pharmacy made the following report:

To The House of Delegates of the American Pharmaceutical Association:

As delegate from the Historical Section of this ASSOCIATION, I have the honor to submit the following report.

The program of this Section was terminated this afternoon, July 29th. The attendance at the meeting was small, but the papers presented were of unusual merit and were enthusiastically received. Dr. James H. Beal presented to the Section a very rare volume by James Cutbush—American Chemist of the early 19th century, entitled "Detection, Adulterations and Culinary Poisons." The Section in turn placed this book in the hands of the Historian for the archives of the ASSOCIATION. (See also page 859, August JOURNAL.)

The Section received several papers dealing with Historical Pharmacy and also on the history of the pharmaceutical state associations, similar to those that it has had the pleasure of receiving in previous years. Feeling that the collection of this information is becoming more and more difficult with the passing of the years, the Section proposed the following resolution:

> *Resolved,* That all state pharmaceutical associations be requested to have prepared historical accounts of the origin and activities of such associations, and of the associations of druggists and of the branches of pharmacy in their respective states, and to furnish copies of the same for permanent preservation in the archives of the AMERICAN PHARMACEUTICAL ASSOCIATION.

The Section also received an illustrated paper from Mr. Aaron Lichtin, entitled "The Pharmacists' Show Globes." In the discussion which ensued, the Delegate of the Section was instructed to present the following resolution.

> WHEREAS, It is the practice of sundries shops to use the show globes containing liquids, and the mortar and pestle, and that these have been associated with the word "apothecary" in the public mind, and accepted as the symbols of the practice of pharmacy, therefore be it
>
> *Resolved*, that the displaying of such symbols is deceptive and fraudulent and should be prohibited by law or by regulations of Boards of Pharmacy where existing laws will permit the adoption of such regulations.

Respectfully submitted,
GEORGE D. BEAL, *Delegate.*

On motion the report was duly received and the resolutions therein referred to the Committee on Resolutions.

The report of the Committee on Legislation was presented by Chairman S. L. Hilton. On motion duly seconded it was received and the recommendation therein referred to the Committee on Resolutions. It follows:

To the Chairman and Members of the House of Delegates:

As chairman of your Committee on National Legislation I herewith submit the following report.

The second session of the Seventy-Second Congress adjourned by statute March 4, 1931, at 12 o'clock noon; as this was the short session little can be accomplished other than the consideration and passage of appropriation bills.

No bills affecting the drug interests were passed at this session, however, the Capper-Kelly bill which had been favorably reported by the House Committee was passed in a somewhat emasculated form by the House of Representatives, when it went over to the Senate it was decided by the Committee that it was entirely too late in the session to give it any consideration and it would be impossible for the Senate to pass it, consequently it died with the adjournment of Congress and will have to be reintroduced after the Seventy-Third Congress convenes; this, I understand, is Mr. Kelly's intention.

The Federal Trade Commission recently made public the result of their consideration of legislation to stop predatory price cutting and will make a report to Congress when it convenes that no additional legislation is necessary.

The report of the Commission is unsatisfactory to Congressman Kelly and he has so stated, he further states that it is his intention to bring the matter before Congress and do all that he can to have same enacted into law.

Mr. Kelly is deeply interested and so stated at the annual meeting of the Virginia Pharmaceutical Association; we should support Mr. Kelly, and we recommend that the House of Delegates again go on record favoring this legislation and give him our undivided support.

Respectfully submitted,
S. L. HILTON, *Chairman.*

The report of the Committee on Cosmetics was presented by Chairman George D. Beal. It follows:

REPORT OF THE COMMITTEE ON COSMETICS.

To the House of Delegates, American Pharmaceutical Association:

As pointed out in the two previous reports to the House of Delegates, the problem before this Committee is one of fact finding. The Committee does not propose to enter into an examination of the cosmetics on the market in the United States. Neither does it propose to determine, by pharmaco-dynamic or other experimental means, the effect of cosmetic ingredients upon the consumer's health. It does feel that there is in the literature to-day an abundance of information upon the general effect of cosmetic ingredients that could be successfully compiled and correlated, and upon which a final report to this House can be based.

While the House has approved of the collection of a fund for this purpose, the present financial condition is such that it is not deemed wise to attempt such a project until a later date. The Committee therefore recommends that it be continued, to give such attention to the subject as is possible in the interim, until it is feasible to collect a fund for the completion of the work.

The cosmetic industry is becoming awakened to the danger of unfavorable legislation. An article by Dr. Maurice Aisen in *Aromatics* for February of this year is entitled "Shall We Clean Our House—Or Must Legislation Do It?" This reflects the opinion that is beginning to take form among the leaders of thought in that industry, and it is hoped that this awakening will assist the Committee eventually in accomplishing its purpose.

Pittsburgh, Pa.
July 24, 1931.

Respectfully submitted,
GEO. D. BEAL, *Chairman.*

On motion of S. L. Hilton, duly seconded, the Committee was continued.

Colonel A. D. Tuttle addressed the House of Delegates on "Pharmacy in the U. S. Army."

The Committee on Pharmacy Corps in the U. S. Army was presented by Chairman R. L. Swain. Before presenting the report he said that the Committee met several times with officials of the Surgeon General's office when the two bills before Congress were discussed. He stated the recommendations of the Committee:

First, that the A. PH. A. recognize the adoption of improvements in the pharmaceutical service of the Army.

Second that the Committee be continued.

Third, that the A. PH. A. go on record as favoring an immediate adoption of these improvements.

Fourth, that the present conference between the Committee and representatives of the Surgeon General's office be continued.

After the discussion Chairman Jordan thanked Colonel Tuttle for his informative address and coöperation.

Chairman Swain stated that the splendid coöperation received from the Surgeon General's office in permitting Colonel Tuttle to come to Miami, requires that we express in a concrete way our appreciation to Colonel Tuttle for his coming here and our appreciation also of the Surgeon General's office for its coöperation. He then made a motion that the Secretary be instructed to communicate in writing with the Surgeon General, expressing the ASSOCIATION'S sincere thanks for this service. The motion was seconded, and carried. The report of the Committee on Pharmacy Corps follows:

REPORT OF COMMITTEE ON PHARMACY CORPS.

By Robert L. Swain, *Chairman.*

The practice of pharmacy in the United States Army has been on a most unsatisfactory basis for many years. There had been no attempt made in the years preceding to build up a system comparable to that required under the laws of the several states. The responsibility of compounding and dispensing drugs and medicines was for the most part entrusted to persons having little or no professional competency for the work. The tragic deaths at Fort Leavenworth some months ago from a physician's prescription improperly filled must be regarded as a logical outcome of the system officially recognized.

This state of affairs has been vigorously and consistently opposed by the AMERICAN PHARMACEUTICAL ASSOCIATION. For many years, this ASSOCIATION has maintained active committees for the purpose of bringing about the proper status for pharmacy in the government services. The ASSOCIATION has ever been outspoken in its condemnation of the unsatisfactory practice in effect. It has pointed out the inherent dangers involved, and has earnestly contended for the same safeguards which the pharmacy laws of the several states have set up in civil life. This ASSOCIATION has refused to recognize any pharmaceutical practice which does not measure up to the standard which the public has found necessary to its protection. This ASSOCIATION has steadfastly retained this position, and has refused to compromise the principles involved.

It is indeed gratifying to report that much progress has been made in the effort to establish an adequate pharmaceutical service in the U. S. Army. Three years ago the ASSOCIATION sponsored a bill to provide a Pharmacy Corps in the United States Army. This bill was first introduced into Congress by Congressman Clyde Kelly, of Pennsylvania, and Senator Royal S. Copeland, of New York. At a later Congress, with the full and complete approval of Congressman Kelly, the bill was again introduced in the House by Congressman Reece, of Tennessee, a member of the House Committee on Military Affairs, and Senator Copeland, of New York. The bill has become generally known as the Reece-Copeland Bill. Congressional hearings were held, and powerful support developed in both houses. All pharmaceutical organizations, both state and national endorsed the measure, and the pharmaceutical press of the country united its force and influence in behalf of this legislation.

Contemporary with the introduction of the Reece-Copeland Bill, the Wainwright Bill was introduced by Congressman Wainwright of New York, also a member of the House Committee on Military Affairs. The Wainwright Bill was designed to bring about certain changes in the organization and personnel of the Medical Department of the United States Army for the purpose of making possible a more efficient medical service. It was generally understood that the Wainwright Bill had the endorsement and approval of the Surgeon General and his staff.

Neither the Reece-Copeland Bill nor the Wainwright Bill has passed Congress, each of them remaining in the same legislative status quo. This phase of the matter is referred to so that the present status of the two bills may be known to this ASSOCIATION.

During the past few months some far-reaching changes have come about. Three conferences have been held by members of the Committee on Pharmacy Corps and the Surgeon General and his staff. Two of these conferences were with Surgeon General Ireland, and one with his successor, Surgeon General Patterson. It is of interest to note that the suggestion for these conferences came from the Surgeon General in each instance. These conferences were entered into freely by the committee, as the need for a full discussion of the whole subject was recognized. From the first, however, the committee made it clear that the conferences were conferences only, and that the committee considered itself committed to the Reece-Copeland Bill until the ASSOCIATION reversed its attitude to this bill. This position was fully understood by the Surgeon General's office.

These conferences have been most helpful. The pharmaceutical situation was frankly discussed from all angles and by both sides. Formality was cast aside in an earnest effort to arrive at the best solution of the problem. The Surgeon General was most courteous and attentive. From the beginning, it was apparent he was desirous of coöperating with this ASSOCIATION in its efforts to improve the practice of pharmacy in the Army. As chairman of this committee, I state it as my honest belief that the Surgeon General is as much interested in meeting the situation as any member of the body. He admits quite freely that the present system is unsatisfactory, and also that a dependable professional pharmaceutical service is essential to a most efficient medical service in the Army. In this phase of the subject, he apparently has not the slightest personal or official reservation. Both Surgeon General Ireland and Surgeon General Patterson are outspoken in their conviction that the practice of pharmacy in the Army must be reorganized and placed on a sound professional basis, and I think this conviction is shared by all members of the Surgeon General's staff. These conferences have been marked by courtesy, frankness and a real desire to meet the situation.

However, the Surgeon General holds to the view that the need of pharmacy can best be met by amending the Wainwright Bill so as to meet the situation. He is convinced that the Reece-Copeland Bill is ill advised in attempting to set up a separate pharmacy corps, and that it is seriously defective in the personnel requirement and administrative features. It is contended that such a corps would precipitate many difficult administrative problems, and would not be in harmony with the broad plans which are being developed for a more efficient medical service. It is contended also that such a corps would prove too restrictive for the sound development and growth of a professional pharmaceutical service. As pharmacy is one of the medical specialties it should be so recognized. It would develop more effectively as a part of the Medical Auxiliary Corps in which the other medical specialties would be grouped. The difficulties in the way of administration, it is pointed out, become readily apparent if each group

rendering an important professional service should be given a separate existence. In order to obviate this difficulty, which even to the untrained in military science, appears to be most formidable, it is proposed to group these essential medical services in the Medical Auxiliary Corps. In order, however, to give as much individuality as possible to pharmacy, the Surgeon General recommends that a Pharmaceutical Division be set up in the Medical Auxiliary Corps, and that a member of the pharmaceutical division be detailed to his office as is the case with the other professional services.

This committee is sympathetic with the desire of the Surgeon General to build up the most efficient medical service in the United States Army. It is felt also that close study and attention should be given to the whole matter of reorganizing the practice of pharmacy in the Army as set forth in the suggestions of the Surgeon General. If a separate Pharmacy Corps would create serious administrative problems without bringing about any greater advantages to pharmacy than a place in the Medical Auxiliary Corps, then this phase of the matter should be given serious thought by this ASSOCIATION. It should be remembered that the objective sought has been an adequate and dependable pharmaceutical service. If this objective is realized the name of the department under which it is given may not be as important as first thought. Then again, the advantages to be gained from friendly and mutual coöperation with the Surgeon General should be weighed carefully in deciding what course the ASSOCIATION should adopt.

The committee feels that this ASSOCIATION and the Surgeon General should be in accord upon the legislative program if possible. Congress should be approached with all difficulties met and overcome if this can be accomplished. It is to be remembered that reaching an agreement with the Surgeon General is but one phase of the matter. Congress must pass the bill, the approval of the President must be had, the budget authorities must approve and find the funds, and whether the Reece-Copeland Bill or the Wainwright Bill is endorsed, common sense would seem to demand an agreement of all parties be effected if possible before the real offensive is made to secure passage of the measure.

In reaching this agreement, this ASSOCIATION has a great and direct responsibility.

Colonel A. D. Tuttle was invited to speak. His remarks are printed in connection with his address before the General Session, A. Ph. A., preceding Association Business in this issue of the Journal.

The next order of business was the report of the Committee on the U. S. P. On motion duly seconded and carried the report was referred to the Committee of Revision of the U. S. P.

The next order of business was the report of the Committee on Recipe Book by Chairman J. Leon Lascoff. The report was read by Prof. C. P. Wimmer.

Secretary Kelly stated that it is customary to refer this report to the joint session of the Scientific Section and the Section on Practical Pharmacy and Dispensing. He made the motion to refer; it was seconded and carried.

The next order of business was the report of the Committee on the Study of Pharmacy. Secretary E. F. Kelly made a report of progress. This on motion was duly accepted.

Chairman Jordan stated that a communication had been received from the Council nominating the following for the ensuing year:

Honorary President, Henry S. Wellcome, London, England; *Secretary*, E. F. Kelly, Baltimore, Md.; *Treasurer*, C. W. Holton, Essex Fells, N. J.

It was moved and seconded and carried that the Chairman cast a unanimous ballot on behalf of the House of Delegates for the election of the nominees to their respective positions. The ballot was cast and the Chairman so announced.

The next order of business was the presentation of the Report of the Committee on Place of Meeting. The report follows:

To the House of Delegates, American Pharmaceutical Association:

The Committee on Place of Meeting does not make its usual report and recommendation of the place for next year's meeting, as it has already been voted to hold the 1932 meeting at Toronto, Ontario, jointly with the Canadian Pharmaceutical Association. Toronto is a very attractive city in a superb location, at the west end of Lake Ontario, and it is plentifully supplied with fine hotels. The 1932 meeting will celebrate the twenty-fifth anniversary of the inception

of the Canadian Association, and it is interesting to note that the twenty-fifth meeting of our ASSOCIATION was held in Toronto, in 1877. It is planned to hold the joint meeting in August next year, during the week preceding the first week of the Canadian National Exposition, so those of our members who wish to so do can stay over to visit what is probably the greatest annual exposition held on this continent.

There is one matter on which the Committee on Place of Meeting needs advice and instruction. This is the question of entertainment at the meetings. Sometimes, our hosts are so generous and hospitable that the entertainment provided is apt to interfere with our necessary business. On the other hand, there are some localities in which we ought to meet, which have no pharmaceutical organizations that are able or willing to spend a considerable amount of money to entertain the ASSOCIATION. The Committee would like to be able to assure members in such places that they will be under no obligation to spend money on our entertainment, beyond the sum provided by the registration fees, if they are willing to do the work required to make arrangements for the meeting.

Respectfully submitted,
T. J. BRADLEY, *Chairman.*

On motion made by Wm. B. Day and seconded by Charles J. Clayton, the report was accepted and carried by vote.

Chairman Bradley said further that no definite action had been taken relative to the meeting place for 1933, but this had been discussed informally by the Chairman with other members of the Committee and also with other members of the ASSOCIATION. He said that Chicago is not in a locality where the Committee would have decided under other circumstances. However, if the International Pharmaceutical Federation is to be held there in 1933 it means that the meeting should be held in or near Chicago.

E. Fullerton Cook favored the idea of the meeting of the International Pharmaceutical Federation in Chicago, in 1933. Foreign delegates will be present at the meeting which would add much to the interest.

William B. Day understood that Chicago would be the logical place of the 1933 convention and said that those who were present at the last Chicago convention will recall that it was a very successful one.

Frederick Schaefer announced the death of Prof. A. P. Lohness of Brooklyn. He stated that the deceased had been a member of the A. PH. A. for twenty-five years.

S. L. Hilton spoke briefly relative to the deceased.

Chairman Jordan requested that the members stand in silence in memory and respect of deceased members.

Chairman Jordan announced that the next order of business would be a report of the Committee on Resolutions.

Chairman Swain stated that the Committee was not ready to report at this time.

The report of the Committee on Nominations was called for and presented by Chairman M. N. Ford. It follows:

To the House of Delegates of the American Pharmaceutical Association:

Your committee on nominations met in Whepley Hall at 9:30 A.M., July 29th, with all members present. After due consideration, we submit to you the following names from which to select your officers:

President: C. B. Jordan, Indiana; Edward Kremers, Wisconsin; Bruce Philip, California.

First Vice-President: Rowland Jones, So. Dakota; Wortley F. Rudd, Virginia; C. A. Dye, Ohio.

Second Vice-President: G. H. Grommet, Florida; C. E. Mollett, Montana; John Culley, California.

Council: J. H. Beal, Florida; C. H. LaWall, Pennsylvania; C. E. Caspari, Missouri; L. L. Walton, Pennsylvania; W. M. Hankins Florida; J. W. Sturmer, Pennsylvania; C. P. Wimmer, New York; E. H. Kraus, Michigan; W. L. Scoville, Michigan.

Chairman House of Delegates: Thomas Roach, Oklahoma.
Vice-Chairman House of Delegates: J. W. Slocum, Iowa.

Respectfully submitted,

CHAS. J. CLAYTON, A. L. I. Winne,
P. H. COSTELLO, E. P. Stout,
C. V. NICHOLS. M. N. Ford, *Chairman.*

Motion was made and duly seconded and carried that the report be received.

Motion was also made that the Secretary cast a ballot for the election of Thomas Roach, of Oklahoma as *Chairman;* J. W. Slocum, of Iowa, as *Vice-Chairman* and E. F. Kelly as *Secretary.*

On motion of William Gray, duly seconded and carried, it was recommended to the Council that the Recipe Book be advertised in the *Journal of the A. M. A.*, and the *Journal N. A. R. D.*, if satisfactory arrangements could be made.

On motion duly seconded the Second Session of the House of Delegates was adjourned.

THIRD SESSION.

The Third Session of the House of Delegates was called to order by Chairman C. B. Jordan, at 8:15 P.M., Friday, July 31st. The roll call of delegates was dispensed with. The minutes of the Second Session of the House of Delegates were read by Secretary E. F. Kelly. They were approved as read.

W. Bruce Philip was recognized by the chairman and stated that it is the request of the Pharmaceutical Association Secretaries that they be granted the privilege of a delegate to the House of Delegates because it is believed more and better work will be accomplished if this request is granted.

Secretary Kelly stated that it would be necessary to revise the By-Laws in order to put this request into effect. He understood that a similar request is coming from the Conference of Pharmaceutical Law Enforcement Officials, and that both requests could be acted upon at the same time.

James H. Beal said he had no copy of the By-Laws with him and was *not* absolutely certain relative to the proper procedure. He would, however, make the motion that the By-Laws be amended so as to give a delegate to each one of the bodies mentioned.

The motion was seconded by S. L. Hilton and by vote adopted.

The report of the Committee on Transportation was made by Theodore J. Bradley.

REPORT OF THE COMMITTEE ON TRANSPORTATION.

The Committee on Transportation submits the following report: This committee was re-created in 1928, and consists of twenty-one widely distributed members. By the plan of operation which has been followed, the chairman makes general arrangements for transportation to the convention, and the members look after arrangements for ASSOCIATION members in their respective localities.

The work of the committee is considerable and calls for a great deal of tact and judgment in dealing with officials of the railroads and their traffic associations. This work has been done cheerfully, as the results have been very helpful to the ASSOCIATION. Since the War and before this Committee began its work, no reduced railroad fares were secured to any of the conventions, but during the past three years, definite excursion rates have been secured, resulting in a tota reduction in fares amounting to thousands of dollars each year, and culminating in the so-called "Identification Plan" this year, in addition to the special excursions to this district, the date of which was fixed by the railroads to suit the largest possible number of our members.

We sincerely hope that this helpful work can continue.

(Signed) THEODORE J. BRADLEY, *Chairman.*

The report was duly received and a vote of thanks was extended the committee.

The report of the Committee on Pharmaceutical Syllabus was presented by Chairman J. G. Beard.

THE REPORT OF THE PHARMACEUTICAL SYLLABUS COMMITTEE.

In May of this year there was mailed to one hundred and fifty college and board officials a mimeographed volume that outlined the thirty courses of study which had been prepared by pharmacy teachers from all sections of the country. These outlines were of a tentative nature, subject to modifications or rejection by the Syllabus Committee and open to the constructive criticism of faculty and examining groups everywhere.

The thirty courses outlined were set up by thirty-four authors who are generally recognized as competent in the fields of their respective work. These authors were selected following an exhaustive study of school catalogs from all over the country and an effort was made to pick men who were giving thorough courses and who were representative of every type of pharmacy school. This group of authors was submitted to the entire Syllabus Committee for approval. Although these authors were asked to follow a standard pattern in preparing their outlines, it was to be expected that each would inject into his manuscript an individual slant that would cause the several outlines to be somewhat lacking in standardized form. These differences, however, were not particularly vital and they can be reconciled when the major problems of revision are solved.

It was hoped that the courses as outlined would be received sympathetically, studied carefully and criticized constructively by the large number of representative pharmacists to whom the mimeographed report was mailed. However, a disappointingly small number of the group addressed have given the volume the benefit of their counsel, which, incidentally is typical of the results that follow when advice is sought in Syllabus revision. Obviously such a lack of coöperation is discouraging to the chairman.

It is doubtful if any man or group of men could set up a curriculum that would meet with the approval of a majority of teachers or board examiners. There seems to be no uniformity of thinking in pharmaceutical education even on basic subject matter. This applies to curriculum content particularly, but applies also to methods of presentation and to the ratio of laboratory work to didactic instruction. If this statement is questioned it will likely be questioned by someone who has not made a careful study of college catalogs and state board questions. A reasonable degree of variation in teaching is natural and necessary, but surely a greater degree of uniformity could profitably be injected into our educational system. The Syllabus is the logical medium for formulating and promulgating this uniformity. Only, however, if there is more coöperative and sympathetic interest displayed in Syllabus revision can the finished work meet the needs it was created to satisfy, and only if this criticism is given freely can the final curriculum as presented to be said to represent the best thinking of educators and examiners throughout the country.

To the following teachers who prepared the Syllabus outlines the sincere thanks of the chairman are extended. Following each name is given the major degree of the teacher, his present title and his present affiliation.

Accounting, General: Roy B. Kester, Ph.D., C. P. A., Professor of Accounting and Head of the Department of Accounting in the School of Business, Columbia University.

Arithmetic of Pharmacy: T. J. Bradley, Phm.D., Dean, Massachusetts College of Pharmacy.

Bacteriology: Malcolm Soule, Sc.D., LL.D., Associate Professor of Bacteriology, University of Michigan.

Botany: H. R. Totten, Ph.D., Professor of Botany, University of North Carolina.

Economics, General and Basic: S. Howard Patterson, Ph.D., Professor of Economics, Wharton School of Finance, U. of Pa.; Karl B. Scholz, Ph.D., Professor of Economics, Wharton School of Finance, U. of Pa.

Chemistry, General: E. V. Lynn, Ph.D., Professor of Chemistry, University of Washington.

Chemistry, Analytical: C. B. Jordan, Ph.C., M.S., Dean, School of Pharmacy, Purdue University.

Chemistry, Organic: E. V. Lynn, Ph.D., Professor of Chemistry, University of Washington; C. W. Johnson, Ph.D., Dean, College of Pharmacy, University of Washington.

English: Baldwin Maxwell, Ph.D., Professor of English, State University of Iowa.

French: R. T. House, Ph.D., Professor of Modern Languages, University of Oklahoma.

German: F. W. Bradley, Ph.D., Professor of German Language, University of South Carolina.

History of Pharmacy: Edward Kremers, Ph.D., Sc.D., Ph.M., Director, Course in Pharmacy, University of Wisconsin.

Jurisprudence: J. H. Beal, LL.B., Pharm.D., Sc.D.

Latin of Pharmacy: H. C. Muldoon, D.Sc., Dean, School of Pharmacy, Duquesne University.

Mathematics, General: J. W. Lasley, Jr., Ph.D., Professor of Pure Mathematics, University of North Carolina; E. T. Browne, Ph.D., Associate Professor of Mathematics, University of North Carolina.

Pharmacognosy: B. V. Christensen, Ph.D., Professor of Pharmacognosy, University of Florida.

Pharmacology: A. R. Bliss, M.D., Dean, School of Pharmacy, University of Tennessee.

Pharmaceutical Chemistry: Glenn L. Jenkins, Ph.D., Professor of Pharmaceutical Chemistry, University of Maryland.

Including:

Drug Assaying: Glenn L. Jenkins, Ph.D., Professor of Pharmaceutical Chemistry, University of Maryland.

Toxicology: M. R. Thompson, Professor of Toxicology, University of Maryland.

Bio-Chemistry: L. K. Riggs, Ph.D., Director of Research, New Jersey College of Pharmacy.

Pharmacy:

Theory of Pharmacy: C. H. LaWall, Phar.D., Sc.D., *Chairman*, Dean, Philadelphia College of Pharmacy; H. V. Arny, Ph.D., Dean, College of Pharmacy, Columbia University; W. J. Husa, Ph.D., Professor of Pharmacy, University of Florida.

Operative Pharmacy: (Same committee as for Theory of Pharmacy.)

Dispensing Pharmacy: W. G. Crockett, Phar.D., *Chairman*, Professor of Pharmacy, Medical College of Virginia; P. H. Dirstine, D.V.M., B.Sc., Dean, School of Pharmacy, State College of Washington; E. F. Cook, P.D., Director of the Pharmaceutical Laboratories, Philadelphia College of Pharmacy.

Manufacturing Pharmacy: L. E. Harris, Ph.D., *Chairman*, Professor of Pharmacy, University of Oklahoma; C. H. Stocking, M.S., Associate Professor of Pharmacy, University of Michigan; E. D. Davy, B.S., Professor of Analytical Chemistry, Western Reserve University.

Commercial Pharmacy: Paul C. Olsen, A.M., Lecturer on Merchandising, Philadelphia College of Pharmacy.

Physics, General: K. H. Fussler, Ph.D., Professor of Physics, University of North Carolina.

Physiology: R. A. Lyman, Dean, College of Pharmacy, University of Nebraska.

Public Health:

Zoölogy: H. E. Enders, Ph.D., Head of the Department of Biology, Purdue University.

Manual for Examiners: R. P. Fischelis, B.Sc., *Chairman*, Secretary, N. J. Board of Pharmacy; M. N. Ford, Secretary, Ohio Board of Pharmacy; A. L. I. Winne, Secretary, Virginia Board of Pharmacy; R. L. Swain, Secretary, Maryland Board of Pharmacy.

Many of these teachers performed the task assigned them at a real sacrifice of time and energy.

The following financial report is submitted as of July 20, 1931:

Balance on Hand from 1930		$494.00	
Receipts since last report:			
Contribution from A. A. C. P.	$50.00		
Contribution from A. PH. A.	50.00		
Contribution from N. A. B. P.	50.00		
Syllabus Sales	10.00	$160.00	
Total Receipts			$654.00

Disbursements:

Mimeographing Reports and Tentative Outline	$120.35	
Clipping Outlines	5.25	
Mailing Tentative Outlines	12.91	
Telegrams	0.60	
Stamps	3.00	
Printing Letterheads	8.00	
Total Disbursements		$150.11
Cash Balance on Hand		$503.89

Here at this meeting in Miami or at a called meeting during the early fall an effort will be made to pass finally upon what shall go into the new Syllabus so that the volume can be published and distributed well in advance of the effective date of the minimum four-year course. Much revision work remains to be done.

Respectfully submitted,
J. G. BEARD, *Chairman.*

Chairman Jordan stated that the Committee had done a tremendous amount of work.

James H. Beal inquired if in the list of total expense the cost of the completed mimeographing was included. Chairman Beard replied that it was. Dr. Beal stated that the prices for mimeographing were certainly very low.

On motion duly seconded the report was received and thanks extended to the Committee.

The report of the Committee on Horticultural Nomenclature was presented by Chairman H. W. Youngken; on motion duly seconded and a vote the report was received.

REPORT OF THE COMMITTEE ON HORTICULTURAL NOMENCLATURE.

To the Chairman and Members of the House of Delegates:

The members of this committee have compiled a list of plant names which, while representing scientific names of plants yielding products in the pharmaceutical trade, were notably missing from the pages of "Standardized Plant Names." This list, a copy of which is attached to our report, was sent to Secretary Kelsey of the American Joint Committee of Horticultural Nomenclature, with the recommendation that the names of plants included therein be added during the revision of the second edition of the aforementioned work. Professor Kelsey has acknowledged receipt of this list with appreciation and stated he would submit same to the other members of the Revision Committee for use in the coming revision.

Respectfully submitted,
C. W. BALLARD, E. N. GATHERCOAL, H. W. YOUNGKEN, *Chairman.*

(The list of botanical names includes 150 names; these are *not* printed herewith; however, the suggestions made for changes are appended.—EDITOR.)

SUGGESTIONS.

The Committee suggests for *A. cannabinum*, Canadian Hemp instead of Hemp Dogbane.

For *Abrus precatorius*, would suggest name of Jecquirty instead of Rosary Pea.

Would suggest Marginal Fern as a synonym for *Dryopteris marginalis* instead of Leather Woodfern.

Would suggest Red Gum as a synonym for *Eucalyptus rostrata* instead of Greek Gum.

Would suggest Wild Thyme as a synonym for *Thymus serpyllum* instead of "Mother of Thyme."

Would suggest that the synonym for *Rhamnus purshiana* be changed to either Cascara Sagrada or Sacred Bark.

The report of the Committee on Pharmacology and Bioassays was presented by Chairman James C. Munch. The report was on motion duly seconded and a vote received.

REPORT OF COMMITTEE ON PHARMACOLOGY AND BIOASSAYS.

At the Portland meeting of the A. PH. A. in 1928 it was decided to undertake a collaborative study of the rate of deterioration of tincture of digitalis. It was also decided that assays

should be made at three-month intervals over a period of at least three years in order to determine the rate of loss in activity. It was planned to use the U. S. P. X One-Hour Frog Method, and also to pay some attention to other assay methods.

Approximately seven pounds of dried digitalis leaves were obtained from the Food and Drug Administration, Eli Lilly Company, H. K. Mulford Company, Norwich Pharmacal Company, Parke, Davis Company and Sharp & Dohme. These ground crude digitalis leaves were mixed to obtain a total of 18 kilos of crude drug. This was defatted with petroleum ether on February 3, 4, 5, 1929, then exposed on trays and dried. A total of 14.5 kilos of defatted material was obtained. This was converted into tincture of digitalis, strictly following the method outlined in U. S. P. X, except that a total of 145 liters was obtained and no adjustments for potency were made. This material was labelled "Tincture A."

To a measured volume of 7000 cc. of Tincture A, sufficient 70% alcohol was added, on February 10, 1929, to make a total volume of 10 liters. This material, which is 70% of the potency of Tincture A, was labelled "Tincture B." Tinctures A and B were packaged in one-ounce and four-ounce flint, amber and blue-glass bottles using the customary commercial procedure. All bottles were thoroughly washed and dried before use. The remaining Tincture A was stored in five-gallon Pyrex bottles.

Samples of this material were sent to members of the Committee on April 10, 1929, with the request that they be assayed at once, and after three months. The hope was expressed that re-assays would be undertaken at three-month intervals.

For various reasons it has not been practicable for all members of the Committee to undertake these assays as originally planned.

It appears that there has been a definite and progressive loss in potency with age. In the reports from two laboratories it appears that Tincture B is weaker than Tincture A, although a single assay from the third laboratory indicates the reverse.

An insufficient amount of information has been obtained by the unofficial methods to warrant deductions regarding change in potency.

Due to changes in the personnel of the Committee and to the inclusion of new collaborators, it appears advisable to report the names of the present workers; Haag, Hargreaves, McClosky, Morrell, Munch, Quici, Rowe, Swanson and Thompson. It is planned to make definite arrangements to assay portions of Tinctures A and B in flint, amber and blue-glass bottles on or about September 1 and December 1, 1931 and March 1 and June 1, 1932. It is believed that these four assays will shed definite light on the present potency and the deterioration during the coming year, and these results will be reported at the 1932 meeting.

Laboratory investigations have been undertaken by the chairman in collaboration with Krantz to determine the buffer capacity and the effect of p_H modifications upon potency and stability. These are reported separately.

Although several clinicians have promised to undertake comparative electrocardiographic studies upon men requiring digitalis, reports have not been received from any of them. An unofficial report from one clinician is to the effect that no difference has been noticed clinically in the action of Tinctures A and B. Efforts will be continued during the coming year to obtain clinical coöperation.

In addition it is desired to undertake a survey of available information upon the deterioration of bioassayed drugs and their preparations jointly with the Committee on Pharmacology and Bioassays of the National Conference on Pharmaceutical Research.

EDWARD E. SWANSON, L. W. ROWE, JAMES C. MUNCH, *Chairman.*

Since the other members of the Committee are not in attendance, H. B. Haag, Wm. T. McClosky and D. I. Macht, it was not possible to obtain their signatures to this report.

Chairman Munch and Messrs. McClosky and Swanson, as well as collaborators Thompson and Morrell, attended a Conference on U. S. P. methods of physiological assay at Philadelphia in the Bellevue-Stratford Hotel, Wednesday, June 24th. Detailed discussion of the present and proposed method of physiological standards was held at this time.

JAMES C. MUNCH.

Chairman Jordan complimented the work of the Committee and stated that if any members of the ASSOCIATION desired to assist in this work they should get in touch with Dr. Munch.

The report of the Committee on Weights and Measures was called for. Secretary Kelly stated that the report had not been received by him, up to this time.

The report on Wm. Procter, Jr., Memorial Fund was read by Secretary Kelly and on motion duly seconded and vote, received.

REPORT OF THE COMMITTEE ON THE WILLIAM PROCTER, JR., MEMORIAL FUND.

It will be remembered that when it was decided to erect the A. PH. A. Headquarters Building in Washington, D. C. that the Committee on the William Procter, Jr., Memorial Fund suggested that the monument to the Father of American Pharmacy should be placed either on the grounds or within the rotunda of the proposed Headquarters Building.

We understand that this proposition has been tentatively accepted by the Committee on plans of the A. PH. A. Headquarters Building, and the Committee on the William Procter, Jr., Memorial is prepared to carry out its suggestion whenever definite plans for its furtherance are completed and approved.

Respectfully submitted,
JAMES E. HANCOCK, *Chairman.*

Chairman A. G. DuMez presented the report of the Committee on International Pharmaceutical Nomenclature.

REPORT OF THE COMMITTEE ON INTERNATIONAL PHARMACEUTICAL NOMENCLATURE.

To the Members of the House of Delegates:

The only happening during the past year of interest in connection with the purposes of this committee is the report of The Committee on Reform in the Nomenclature of Organic Chemistry appointed by The International Union of Chemistry in 1922. This report has just been released and has not been sufficiently studied to determine its effect, if any, on pharmaceutical nomenclature. Your Committee, therefore, has no report to make at this time.

Respectfully submitted,
A. G. DUMEZ, *Chairman.*

On motion duly seconded and a vote the report was received.

Chairman C. B. Jordan called on Dr. James H. Beal who said in part:

FIGHTING DISEASE WITH DRUGS.

"I would ask permission to call the attention of the House of Delegates to this book which I hold in my hands, entitled: 'Fighting Disease with Drugs.' The book is written in a way to be understood by the layman. It shows to the world what practical medicine has done for man. The world has produced famous physicians and also famous pharmacists; great discoveries have been made in medicine; great discoveries have also been made in pharmacy for the benefit of man. Physicians have been martyrs to the cause of humanity; so also have pharmacists.

"This little book tells of the great work of pharmacy in a way that people outside of our profession can easily understand; and also in a way that many of our own people can understand as to just what their profession has done for the betterment of the human race. Each chapter has been written by someone whom you will recognize as well qualified to speak. The articles are very interesting. They should be read by every pharmacist in the United States, and especially by every young pharmacist. I hope that all of you gentlemen will buy this work and make a Christmas or birthday present of it to your clerks, and then borrow it and read it yourselves. It seems to me that every college of pharmacy should place this volume on the list of required volumes to be read by its students.

"The pharmacy of to-day is a continuance of the pharmacy of the past. There is no outstanding line of division of the two. What we have to-day has come out of the past. So many of us have not fully realized all that has been done in the past. Take, for example, the difference between the pharmacist in the United States and the pharmacist in Europe. The traditions of the pharmacists and apothecaries of Europe have come down to them all through the ages. These traditions have been accepted by the general public and the pharmacists have received the benefit. In this country, we had no traditions. A little movement was started on the eastern seaboard and started westward. Now, we are growing, very largely under the leadership of the AMERICAN PHARMACEUTICAL ASSOCIATION.

"This is something to tell the young men; what our traditions are; what pharmacy may become; and what it will become if we discharge our obligations."

Dr. James C. Munch said that one of our contributors to the writing of this book was Dr. John C. Krantz, Jr. It was largely due to him that the book has become a reality.

Dr. Beal stated that he was very glad to include the name of Dr. Krantz because he is entitled to the greatest amount of credit for his untiring labor.

In presenting the report of the Committee on Pharmacy Week, W. Bruce Philip stated that this was a sad moment of his life and that he was filled with deepest emotion in rendering the report of the lamented Dr. Robert J. Ruth. He stated that the report had largely been prepared by Dr. Ruth. The report follows.

REPORT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION COMMITTEE ON PHARMACY WEEK.

The sixth annual observance of National Pharmacy Week was held October 12–18, 1930. It excelled in successful accomplishments all previous observances.

Having been chosen as National Chairman of the Joint Committee, composed of the committees of the AMERICAN PHARMACEUTICAL ASSOCIATION and the National Association of Retail Druggists on Pharmacy Week, your chairman assumed the rôle of National Chairman of the Movement.

Your chairman wishes to express publicly his appreciation of the invaluable coöperation which he received from Jos. W. Noble, chairman of the N. A. R. D. Committee on Pharmacy Week and the members of the N. A. R. D. and the A. PH. A. Committees who comprise his Executive Committee. He thanks most heartily the presidents and secretaries of the State Pharmaceutical Associations, who make up the Advisory Committee, for their support and loyal cooperation. This public expression of appreciation extends to the various coöperating groups which are affiliated with the official Pharmacy Week Committee. They are the Committee on Education and Research of the National Wholesale Druggists' Association, the Federal Wholesale Druggists' Association, the Drug Trade Bureau of Public Information, the Deans of the Colleges of Pharmacy, the Editors of all journals of Pharmacy and the members of the State Boards of Pharmacy. Your chairman also wishes to thank the district and local chairmen who worked in each state and all pharmacists who assisted in this great movement for public information.

In no small way did the pharmaceutical journals do their part in giving their support to the past year's observance by devoting valuable space to editorials and publicity; in some instances by printing special Pharmacy Week editions.

A great impetus was given to the sixth observance by the message sent by President Hoover to the pharmacists of the nation which gave fitting official recognition to the Pharmacy Week observance which is and always must be directly in the interest of the public health. President Hoover's message is as follows:

> "On the development of drugs and their uses depend to a considerable degree the health and the welfare of the people of the world. Daily our laboratories are engaged in the pursuit of newer knowledge which will make constantly more effective the unending combat against illness and disease. The pharmacists of our country are indispensable allies of the physicians. It is fitting, therefore, that each year we should formally acknowledge our indebtedness to them. I am glad to extend to the pharmacists of the nation the good wishes of all our people."

Arthur W. Hyde, Secretary of the U. S. Department of Agriculture and Julius Klein, Assistant Secretary of the U. S. Department of Commerce also contributed to the governmental recognition given the importance of Pharmacy Week by their special messages for the occasion. Such coöperation is very cheering to pharmacists and those connected with or interested in Pharmacy.

Of the $500.00 given jointly by the A. PH. A. and the N. A. R. D., $484.14 was spent for the campaign of the sixth annual observance. The balance, $15.86, plus $4.34 which was on hand January 1, 1930, or $20.20, has been added to the $500.00 received for the 1931 campaign, giving a total of $520.20 to cover expenses of the 1931 campaign. Your chairman has submitted the annual financial report for the year 1930 to both the A. PH. A. and the N. A. R. D.

Outstanding among the features of this year's observance of Pharmacy Week will be the

National Window Contest. The Federal Wholesale Druggists' Association, through its secretary, R. E. Lee Williamson, of Baltimore, has offered to furnish for this year and for each subsequent observance a beautiful silver cup to be awarded by the National Executive Committee on Pharmacy Week for the best professional window display exhibited in any retail pharmacy in the United States during Pharmacy Week. It is believed that a national window contest such as we contemplate conducting this year and future years, will create additional interest in Pharmacy Week on the part of retail pharmacists who have, since the inception of the movement, displayed gratifying enthusiasm. The mechanics of the contest have been outlined in a release story which has been published in the pharmaceutical press.

As in former years, Dr. E. L. Newcomb, Secretary of the N. W. D. A., is giving us staunch support. For this year's observance he is having prepared a map entitled: "Pharmaceutical Education in the U. S. and Canada. The map will contain various information which will do much to convey to the public the number of young men and women studying pharmacy and the total number of millions of dollars invested in America to produce trained pharmacists to serve and protect the public health.

The observance of Pharmacy Week, besides being celebrated by all of the English-speaking countries of the world, will also be held in Japan, as we have been informed by a marked copy sent to Pharmacy Week headquarters from the *Yakugyo Shuho* (*The Weekly Druggist*) 12, Hommura-cho, Azabu, Tokyo. In order to make it a big success in Japan, some of the articles, written in English, about Pharmacy Week, will be translated into Japanese and run in the above publication in "red letters" in their Japanese columns.

Plans are now in process whereby the pharmaceutical press and other media are going to give their fullest support to the seventh annual observance, October 11–17, 1931.

Every pharmacist in the country is asked to give us his best support so that this year's observance will be an outstanding success.

Respectfully submitted,
ROBERT J. RUTH, *Chairman*,
A. PH. A. Committee on Pharmacy Week.

Chairman Jordan said that this should stimulate all pharmacists to do their very best during Pharmacy Week of this year.

E. L. Newcomb in seconding the motion to receive the report voiced his appreciation of the work done by Chairman Ruth; he said that it would be of great benefit to American pharmacy and that it would be very difficult to replace him.

The resolutions presented by R. L. Swain are as follows.

RESOLUTIONS ON DEATH OF DR. ROBERT J. RUTH.

WHEREAS, Professional Pharmacy has sustained a loss by the untimely death of Dr. Robert J. Ruth that is felt throughout the entire pharmaceutical world, and

WHEREAS, One of the many brilliant inspirations that emanated from the active brain of this gifted and conscientious worker, was his suggestion that the professional phase of pharmaceutical practice be emphasized each year, and

WHEREAS, This constructive thought has been translated into the annual observance of Pharmacy Week, and

WHEREAS, The suggestion to observe Pharmacy Week was presented through the agency of the AMERICAN PHARMACEUTICAL ASSOCIATION at its annual meeting held in Buffalo, therefore, be it

Resolved, That this ASSOCIATION records its keen appreciation of the unselfish efforts in behalf of professional pharmacy that were put forth by Dr. Robert J. Ruth during his lifetime, and be it

Further Resolved, That we record our overwhelming sorrow that his inspired work was cut short at the zenith of his career and

Be It Further Resolved, That a committee of five be appointed to devise appropriate methods for perpetuating the memory of Dr. Robert J. Ruth, and

Be It Further Resolved, That this resolution be spread upon the minutes of this meeting, and an engrossed copy thereof be sent to his family.

A motion to adopt was made by S. L. Hilton and the delegates expressed their approval by a rising vote.

The report of the Committee on Membership was presented by Secretary Kelly.

REPORT OF THE COMMITTEE ON MEMBERSHIP.

In presenting the report Secretary E. F. Kelly referred to the work of Chairman R. P. Fischelis, of District No. 2. A series of six letters were mailed to the respective chairmen of the several states included in District No. 2. Up to and including Council Letter No. 12, a total of 158 new members have been elected from District No. 2. Based on the total of 511 new members for all Districts, this is equivalent to approximately 31%. A total of six additional members residing outside of District No. 2 were recommended by members in District No. 2, which raises the total to 164, or 32% of the total.

The total list of members for the year comprises 540 members, additional members to be included having come in after the report was made up.

University of Pittsburgh, Student Branch	63
South Dakota State College, Student Branch	33
State College of Washington, Student Branch	28
Retailers	271
Wholesalers	7
Manufacturers	9
Teachers	40
Research Workers	5
Representatives	7
Pharmaceutical Chemists	16
Association Officials	1
Hospital Pharmacists	13
Pharmacists in Government Service	3
Publishers	2
Students	15
Life Members	2
Active and Associate Members	515
Headquarters' Building Members	29

Chairman Jordan stated that this was a splendid report and represented over 500 new members.

On motion duly seconded the report was accepted.

Chairman Jordan asked Vice-Chairman Roach to take the chair and he presented the report of the Committee on Prerequisite Legislation of which he was chairman. The report follows:

COMMITTEE ON PREREQUISITE LEGISLATION.

House of Delegates, American Pharmaceutical Association:

Your Committee on Prerequisite Legislation begs to submit the following report:

The Committee has offered reprints of arguments for prerequisite legislation to state association officials in those states that do not have prerequisite laws. However, it was found that it is difficult to do much in some of these states. The effort for the securing of prerequisite legislation must come from within the state and a campaign of education has to be carried on before the law can be secured.

The States of South Dakota and Maine recently secured prerequisite laws leaving only 10 states that have not yet secured prerequisite laws. These are the following states: Arizona, Georgia, Massachusetts, Missouri, Nevada, New Hampshire, New Mexico, Tennessee, Wyoming and Vermont.

Your Committee holds itself in readiness to do anything it can to assist in securing prerequisite legislation in the above states.

Respectfully submitted,

C. B. JORDAN.

On motion duly seconded the report was received.

James H. Beal in referring to the amendment of the By-Laws which had been proposed giving the Conference of Pharmaceutical Association Secretaries and the Conference of the Pharmaceutical Law Enforcement Officials a delegate each in the House of Delegates, stated that this was an amendment to the By-Laws of the A. PH. A. instead of an amendment of the By-Laws of the House of Delegates, therefore, it would be necessary that the amendment be read in one joint session of the ASSOCIATION and adopted at the next session and that it was now necessary to reconsider the motion previously passed and adopt a new one in its place. He, therefore, moved a reconsideration of the previous vote in session and that the House of Delegates recommend that its By-Laws be so amended as to permit the Conference of Pharmaceutical Association Secretaries and the Conference of the Pharmaceutical Law Enforcement Officials to have each a delegate to the House of Delegates. The substitute amendment provides as follows: (The Plant Science Seminar is also included in the amendment.)

That the House of Delegates recommends to the AMERICAN PHARMACEUTICAL ASSOCIATION to amend Article I of Chapter V, by adding to *Section* A the names of the Conference of Pharmaceutical Association Secretaries, the Conference of Pharmaceutical Law Enforcement Officials and the Plant Science Seminar.

The motion was duly seconded and adopted by vote.

The report of the Committee on Patents and Trade Marks prepared by Chairman F. E. Stewart was submitted by Secretary E. F. Kelly. It follows:

REPORT OF THE COMMITTEE ON PATENTS AND TRADEMARKS.

This report is a continuation of last year's report and should be read in connection with it.

Last year's report deals more particularly with the patent and trademarks laws as such—laws for promoting progress in science and useful arts and protecting the public from fraud and the producers of merchandise from unfair competition in trade.

As pharmacists and physicians we are dealing with subjects vital to the public health. The public health is of paramount importance. The making of money is of secondary importance.

The medical profession is a fraternity bound by a code of ethics which obligates its members to donate the knowledge of their researches and experience as physicians to the profession so that the same may be employed and utilized throughout the world to prevent disease, mitigate suffering and heal the sick.

The machinery for creating and distributing this knowledge to the world includes the medical press—periodical literature and textbooks. It also includes the medical societies in which the results of individual research and discovery are presented for discussion and verification. Sifted from error this knowledge is classified in the forms of science and protected by a definite and scientific unchanging nomenclature. Thus sifted and prepared this knowledge is employed by the medical schools and colleges for the instruction of their students in the practice of medicine.

This machinery also includes the hospitals, clinics and other institutions for the care of the sick. It also includes the sick room of every patient under the care of a physician the country and world over.

For the prevention of disease, the mitigation of suffering and the healing of the sick drugs and medicines are necessary among other agents employed for such purposes. To use them properly in their practice physicians must be instructed to do so. This requires the employment of the machinery for creating and distributing scientific knowledge concerning the materia medica or substances used as medicine. It not only requires the use of the machinery above described, it also requires the educational and industrial machinery of pharmacy. This machinery is required for creating and distributing knowledge of drugs and medicines and their properties, that physicians may be provided with knowledge how to properly employ them as agents for preventing disease, mitigating suffering and healing the sick. Consequently, it is necessary that the identity, character, quality and strength of every product and preparation of the materia medica shall be developed, published, properly recorded in scientific literature and protected from pretense and error by scientific nomenclature. It is also necessary that a body of experts in this knowledge and its practical application to the collection, preservation, preparation, compounding and dispensing of drugs and medicines shall exist and properly develop to meet the requirements of pharmacologic science and practice.

Progress in the science of the materia medica and in the arts of pharmacy and pharmaco-therapy, is, therefore, dependent upon research work of experts in all the branches of knowledge necessary for the coördinate development of pharmacologic science and the arts upon which that science is founded, namely, the science of the materia medica and the arts of pharmacy and pharmaco-therapy. It is also dependent upon the educational and industrial machinery above mentioned, all of which are related to the development of this knowledge, its publication, classification in the forms of science and teaching in the medical and pharmaceutical schools and colleges.

Part of this machinery—a very important part—is the Pharmacopœia. Once in each decade experts from every branch of pharmacologic knowledge convene at Washington for the purpose of its revision. The limits of this report will not permit discussion of the vital importance of the Pharmacopœia and its proper development to meet the requirements of pharmacologic and scientific therapeutic practice. However, this report would not be complete without calling your careful consideration of the patent and trademark laws and their objects as defined in last year's report. Properly applied to pharmacologic science and the related arts of pharmacy and pharmaco-therapy these laws can be so interpreted and applied as to promote progress therein and protect the public health from exploitation by ignorance and greed.

(Signed) F. E. STEWART, *Chairman.*

On motion duly seconded and carried the report was received.

The report of the Committee on Coöperative Publicity was read by Secretary E. F. Kelly.

REPORT OF THE COMMITTEE ON COÖPERATIVE PUBLICITY.

To the Chairman and Members of the House of Delegates:

The duties of this Committee are to coöperate with the Drug Trade Bureau of Public Information and to represent the AMERICAN PHARMACEUTICAL ASSOCIATION in the activities of the Bureau. Your chairman attended the annual meeting of the Drug Trade Bureau of Public Information, which was held at Washington on December 10th.

It was reported by the Director of the News Service that fifty bulletins had been issued to the newspapers and to the general mailing list by the Bureau during the past year, and that these bulletins had had a wide reception. Newspaper clippings were shown to indicate the use that had been made of these bulletins by the press. Considerable publicity has also been fostered by direct contact and interviews with newspaper men.

The total receipts for the year ending last December were $2525.00. This included contributions from the following associations: The Proprietary Association, the American Association of Colleges of Pharmacy, the National Association of Retail Druggists, the National Wholesale Druggists' Association, the AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Boards of Pharmacy and the Maryland State Pharmaceutical Association. The disbursements amounted to $2294.99. There was a balance on hand from the previous year of $1386.08, which, together with interest on deposits, brought the total to the point of leaving a balance for the ensuing year of $1729.07.

Of course, the great handicap under which the Bureau is working is lack of funds. This fact was brought out in our report last year, and as a result of the discussion of the report in the House of Delegates, a number of representatives of State Associations took it upon themselves to recommend to their organizations that they contribute to the funds of the Bureau. A number of State Pharmaceutical Associations have responded to requests for contributions, but these contributions have not exceeded $25.00 in any case, and have been as low as $10.00 in some cases.

The following officers were reëlected to serve for the ensuing year: *President,* Ambrose Hunsberger, Philadelphia; *Secretary-Treasurer,* H. C. Christensen, Chicago; *Director of News Service,* Robert P. Fischelis, Trenton.

It was decided to continue the work of the Bureau for the ensuing year to the extent permissible with the funds on hand.

Respectfully submitted,
ROBERT P. FISCHELIS, *Chairman.*

Motion was made and seconded that the report be received, and so voted.

Editor Eberle stated that since the opening of the convention Director Fischelis had, through coöperation given him here, prepared ten bulletins on the convention.

Secretary Kelly stated that he comes in direct contact with the work of Dr. Fischelis and he would ask that each delegate make it a business to get in touch with the state association and see whether the coöperation between the state association and this committee cannot be strengthened; thereby each state association will be benefited and pharmacy at large.

There being no reports from delegates, Chairman Gordon called for the report of the Committee on Resolutions. This was presented by Chairman R. L. Swain.

REPORT OF COMMITTEE ON RESOLUTIONS.

He stated that a large number of resolutions had come before the Committee. The Committee desires to congratulate Chairman Jordan for his excellent address and for the splendid administration given the House of Delegates. Chairman Swain then continued with the reading of the resolutions which were considered *seriatim*. The resolutions are printed in the August JOURNAL beginning on page 806 and ending on page 811.

Relating to Resolution No. 22, History of State Pharmaceutical Associations, W. Bruce Philip said that these histories should be on the same kind of paper, so as to have uniformity.

H. V. Arny stated that in New York they had a complete history of the state association. He said the records of all state organizations should be carefully guarded, if only for historical reasons.

W. E. Bingham stated that Alabama will celebrate its Golden Anniversary next year. Chairman Jordan said that Indiana had celebrated its 50th anniversary and that it was very difficult to find the records of the earlier years.

Historian Eberle said that the ASSOCIATION had several histories of state associations presented in different years.

Vice-Chairman Roach said that there undoubtedly was a lot of material which could be obtained further back than the organization of the respective associations and this would contribute to the preparation of a comprehensive history of the state associations.

Historian Eberle said that considerable work had been done along this line by Prof. J. G. Beard for "The History of American Pharmacy," for which considerable data has been collected. This material is in the hands of the Historian as submitted by Clyde Eddy and made of record in the Historian's report of the preceding meeting. (Reference has been made in the JOURNAL of the fine work Secretary Adams had done in collecting historical material of the Texas Pharmaceutical Association.)

E. L. Newcomb said that quite a number of state associations have discontinued the printing of annual proceedings with the result that very valuable records will be lost and he suggested that the resolutions should be amended so as to recommend to the state associations the conservation of their proceedings in a permanent form.

E. N. Gathercoal said that he was greatly interested in this movement. It had been impossible to secure certain historical material relative to the Illinois association in the association files but he found it in the law library.

E. L. Newcomb suggested that all state organizations be asked to print complete proceedings of their annual meetings and that they conserve their proceedings.

H. V. Arny said it was certainly the duty of each association to conserve its records and to make a comprehensive history of all their activities. Whether the proceedings are printed or not a copy of their history should be kept in the archives of each association. He also said that several colleges of pharmacy will soon have their Golden Anniversary, and referred to an article on the founding of Philadelphia College of Pharmacy in the college publication of 1921. (The latter published an historical volume, commemorating its first century.)

He also referred to the historical volume prepared by Dr. C. P. Wimmer. He said there was a lot of material available, if it was only gone after. While in attendance at the New Orleans meeting he found an article on the history of the New York College of Pharmacy. He stated that by looking over newspaper files considerable pharmaceutical matter would be discovered and all this material should be in the archives of the American Institute of Pharmacy instead of being scattered throughout the country.

A motion carried to refer the discussions to the Committee on Resolutions.

Chairman Jordan said that the final report of the Committee on Resolutions would be presented at the Final Session. He said that the House of Delegates owed the Committee on Resolutions a vote of thanks for their splendid work. The motion was seconded and adopted.

The Third Session of the House of Delegates was then, on motion, duly seconded and carried, adjourned.

THE FINAL SESSION.

The Final Session of the House of Delegates was called to order by Chairman C. B. Jordan, Friday, July 31st at 7:30 P.M. The minutes of the Third Session of the House of Delegates were read by Secretary Kelly and approved.

The following reports of the Sections were read and received:

SCIENTIFIC SECTION.

To the House of Delegates:

The Scientific Section held two sessions on Wednesday and Friday afternoons, respectively, and a Joint Session with the Section on Practical Pharmacy and Dispensing on Thursday evening. Seventy-one papers were listed on the printed program for presentation at the two sessions and a total of 38 were actually read, the remainder being given by titles and referred for publication.

New officers elected for the coming year are as follows:

Chairman, L. E. Warren, Washington, D .C.
First Vice-Chairman, W. J. Husa, Gainesville, Fla.
Second Vice-Chairman, A. R. Bliss, Jr., Memphis, Tenn.
Secretary, L. W. Rowe, Detroit, Mich.
Delegate to House of Delegates, E. E. Swanson, Indianapolis.

Respectfully submitted,
L. W. ROWE, *Secretary*.

SECTION ON PRACTICAL PHARMACY AND DISPENSING.

To the House of Delegates:

The secretary of the Section on Practical Pharmacy and Dispensing begs to submit the following report:

Two meetings of the Section were held, in addition the customary Joint Session with the Scientific Section. At the first meeting a very good attendance was had, but the second was not so well attended. However, a large number of valuable papers were presented and considerable discussion was entered into by the members of the Section. Particular emphasis is called at this time to the variety of subjects and their importance.

As part of the Section's activities for this meeting a visit was scheduled to Miami's professional pharmacy—the Arcade Prescription Pharmacy. This is a new feature and is one which was enjoyed by all those availing themselves of the opportunity.

The Committee on chairman's address did not concur with the recommendation that the Committee on Glass Standardization be discontinued and so the valuable work of the Committee will be continued under the leadership of Dr. H. V. Arny.

The Committee did, however, concur in the second recommendation that Dr. Arny be accorded a hearty vote of thanks for the work he has been doing in this line.

The Committee on Nominations proposed the following officers for the ensuing year:

Chairman, W. G. Crockett, Virginia.
Vice-Chairman, W. Paul Briggs, Washington, D. C.
Secretary, R. E. Terry, Chicago.
Delegate, I. A. Becker, Chicago.

These were duly elected and installed in office as the closing business of the Section's activities at this time.

Respectfully submitted,
RALPH E. TERRY, *Secretary*.

SECTION ON COMMERCIAL INTERESTS.

To the House of Delegates of the American Pharmaceutical Association:

The report of the Section on Commercial Interests is herewith submitted:

Two sessions were held, the first on Thursday morning, July 30th and the second on Friday afternoon, July 31st. Both sessions were well attended and interesting.

The following committees were appointed:

Nominations: Russell Rothrock, *Chairman*, G. W. Slocum and G. H. Grommet.

Resolutions: Charles J. Clayton, *Chairman*, Mrs. W. Bruce Philip and Henry Brown.

Twenty-three papers were presented in the two sessions. During both sessions, lack of time prevented all the papers being read in full. Practically all papers were well discussed. After Mr. Philip read his paper, he was asked to discuss briefly the Philip Survey in California.

As a result of this presentation, the following resolution was offered and referred to the Resolutions Committee—that the Section on Commercial Interests recommend the approval of the resolution presented to the House of Delegates by the Conference of Pharmaceutical Association Secretaries on the Philip Survey.

When the paper of the late Robert J. Ruth was read by title, those present rose in tribute to his memory.

The report of the Committee on Resolutions approved the above resolution on the Philip Survey and it was carried by the Section.

The report of the Committee on Nominations was as follows:

Chairman, Rowland Jones; *First Vice-Chairman*, Leon Monell; *Secretary*, John A. J. Funk; *Delegate to the House of Delegates*, Joseph G. Noh.

There being no further nominations, the nominees were declared elected to their respective offices.

Respectfully submitted,
LEON MONELL, *Secretary*.

The report of the Committee on Local Branches was read by Chairman C. Leonard O'Connell. It follows:

COMMITTEE ON LOCAL BRANCHES.

A study of the programs and activities of the Local Branches as reported in our JOURNAL for the past year indicate very clearly that the branches are developing slowly and surely and in most areas seem to be growing in influence among those interested in pharmacy. The subjects treated by speakers as well as the open forum discussions are comprehensive and include the varied phases of pharmaceutical activity. Also one notes that the professional and scientific aspects of our calling dominate, which indeed they should, and one hopes that this increased interest in professional pharmacy will result in many more pharmacists being influenced to develop more fully the distinguishing aspect of the calling.

Another significant feature is the enthusiasm that is being evidenced in the establishment of student branches in the colleges. With a four-year course in pharmacy and a training period of four years in student branch activities certainly it would seem that the Local Branches, if awake to their opportunities would then have fertile ground for growth among the graduating pharmacists.

C. LEONARD O'CONNELL, *Chairman*.

On motion duly seconded and carried, the report was received.

The final report of the Committee on Resolutions was called for.

Chairman Swain presented the amended report (Resolution No. 22). It was made to read as printed in the August JOURNAL on page 809.—*Resolved*, that all state pharmaceutical associations be requested to have prepared Historical accounts of their origin and activities and of the uses of drugs, and of the practice of pharmacy in their respective states and to furnish copies of the same for permanent preservation in the Archives of the AMERICAN PHARMACEUTICAL ASSOCIATION. Be it further

Resolved, that the State Pharmaceutical Associations be urged to continue the publication of their annual proceedings so that these most valuable historical records be preserved.

Secretary Kelly asked that he be permitted to include the report of the Section on Education and Legislation when presented to him.

On motion duly seconded and a vote he was authorized to include this report. The officers are: *Chairman*, Rudolph H. Raabe, Columbus, Ohio; *Vice-Chairman*, Charles W. Ballard, Mount Vernon, N. Y.; *Secretary*, Charles J. Clayton, Denver, Colo.; *Delegate to House of Delegates*, B. V. Christensen, Gainesville, Fla.

Chairman Jordan expressed appreciation of the coöperation and assistance of Secretary Kelly.

Chairman Jordan then installed the new chairman of the House of Delegates, Thomas Roach, of Oklahoma, and wished him success during his term of office.

Chairman Roach esteemed his election as chairman a great honor and expressed his appreciation, and stated that he would do the best he could in carrying out the duties of his office. He was very glad indeed to serve with so efficient a secretary as Dr. Kelly, and with his assistance he hoped to discharge the duties of his office.

He expressed regard and respect for all the members of the AMERICAN PHARMACEUTICAL ASSOCIATION and hoped that the progress and success the ASSOCIATION has achieved will continue. It is one of the outstanding organizations in the professional world, and he thought that if the physicians were better acquainted with the kind of work that the A. PH. A. is doing, it would result in closer coöperation.

The convention had been a success in his opinion, and had accomplished a great deal of work in the interest of the pharmaceutical profession. He was glad to have a part in carrying on this work and stated that he would do all in his power to assist in the advancement of the interests of this ASSOCIATION.

In the absence of Vice-Chairman Slocum, Prof. Zada M. Cooper was installed as proxy for him. She stated that Mr. Slocum would do his very best in carrying out the duties of his office.

Chairman Jordan, on motion duly seconded, and carried, declared the Final Session of the House of Delegates adjourned and he hoped that the greater number of those present here would also be in attendance at Toronto.

PHARMACY WEEK.

A number of bulletins have been released for newspapers and radio talks by Secretary E. L. Newcomb, of the N. W. D. A., for Pharmacy Week. Pharmacists throughout the country should aid in this publicity for pharmacy and show their interest in the important annual event. Suggestions for addresses by pharmacists may also be obtained through the agency of wholesale druggists or by writing to the office of the N. W. D. A., 51 Maiden Lane, New York City. Secure the Educational Map; a few earlier issues are still available.

The bulletins are sources of information for pharmacists and will interest the public; get in touch with your local newspaper and advise them where news matter relating to Pharmacy Week may be obtained—a number of the bulletins are suitable for *Magazine Sections*. There is much interesting history which appeals to readers—for example "The Story of Quinine," "Pharmacy and Public Health," historical accounts of the search for drugs. Dr. Howard W. Haggard will deliver several radio addresses relating specifically to the professional services of the pharmacist; President Herbert Hoover will release a proclamation on the importance of pharmaceutical service. Merck & Co. have issued "Pharmacy Week Window Suggestions," prepared by Prof. Anton Hogstad.

THE AMERICAN CHEMICAL SOCIETY.

The annual meeting of the American Chemical Society, at Buffalo, was interesting and successful; the attendance being more than 2000 and the program comprehensive. As a memorial to the late Edgar Fahs Smith, the Division of Chemical Education conducted a Joint Symposium with the History of Chemistry Division on "The History of Chemical Education in America." Mrs. Edgar Fahs Smith was a guest of honor.

Chemical Abstracts took the occasion to celebrate its 25th anniversary; Mr. and Mrs. Harvey F. Mack and Secretary Charles L. Parsons were honor guests at the function. The division of Medicinal Chemistry elected the following officers: *Chairman*, Oliver Kamm; *Vice-Chairman*, Paul N. Leech; *Secretary-Treasurer*, H. C. Hamilton.

PHARMACEUTICAL SERVICE IN THE MEDICAL DEPARTMENT OF THE ARMY.*

BY LT.-COLONEL ARNOLD D. TUTTLE, MEDICAL CORPS, U. S. ARMY.

(An Extemporaneous Address.)

"Mr. President, members of the AMERICAN PHARMACEUTICAL ASSOCIATION, ladies and gentlemen: It gives me much pleasure to be with you on this occasion. From the Surgeon General of the Army, Major General R. U. Patterson, I bring you greetings and his best wishes for a successful convention.

"During the past year, in the office of the Surgeon General at the War Department in Washington, several meetings were held with representatives of the AMERICAN PHARMACEUTICAL ASSOCIATION on the status of Pharmacy in the military establishment. These meetings accomplished much towards clarifying our problem. Your committee progressed far in their efforts to get what they believe your ASSOCIATION desires. As a result I am sure that within a few years we will be in a position to look back and wonder how we ever got along under the handicaps now obtaining.

"Perhaps some of you gentlemen do not fully realize that in the Army we cannot always get everything we want—cannot always achieve what we consider to be the ideal in organization matters. Frequently we have to resort to a lot of compromising and take the best we can get. Especially is this true in times like the present, when it is necessary for the government to institute a rigid policy of economy in all its departments.

"I have been in the Army for 33 years. During that period I saw the Spanish-American War, the Philippine Insurrection, the China Relief Expedition, the mobilization on the Mexican Border and the World War come and go. Experience has taught me to appreciate how energetically we must go after the things we want and how so discouragingly slow it sometimes takes to get them. Whenever legislation is involved it sometimes takes year after year of effort to obtain what the Army itself has repeatedly asked for. With us, progress has been a matter of evolution; at times painfully slow. Up to comparatively recent years most of the nursing in our hospitals was done by the enlisted men of the Medical Department. Now we have graduate women nurses at all hospitals of appreciable size. It took us years to put over an efficient dental service. Pharmacy is confronted with the same obstacles as were surmounted by those services in reaching out for a good organizational footing. In the Army to-day we have about 30 registered pharmacists, and about 300 practical pharmacists who have been so trained by our medical officers that they are capable of rendering efficient service in compounding prescriptions. However, at some of our smaller posts medical officers still have to compound their own important prescriptions. We know that existing conditions are unsatisfactory and that the time has come when we must have a better pharmaceutical service. We can get the type and number of pharmacists we need only through legislation that will offer better inducements and rewards. In the near future, let us hope, we will have commissioned ranks in the Medical Department filled by a group of pharmacists of whom you can well be proud. The proper organization of an efficient pharmaceutical service has already become a question of vast importance. In fact, your committee during the past year has focussed so much attention to the subject that to-day it is receiving most earnest consideration by the Medical Department. That there is considerable room for improvement cannot be denied. We want that improvement to come just as soon as it can possibly be effected. We are just as anxious for it as are you gentlemen. Graduate pharmacists are going to become welcomed members of the Medical Department, on a dignified footing that I am sure will be satisfactory to all concerned.

"I am hopeful that my visit to this meeting and the opportunity it affords me to mingle with your members and frankly exchange views will be instrumental in bringing about a better understanding between you gentlemen of the civil profession and your representatives in the Army, as well as throughout the Medical Department in general. I understand that this subject will be discussed at the meeting of the House of Delegates to-night. I will be present to answer any questions that may arise. I thank you."

(Here Colonel Tuttle was asked why the Army preferred the Wainwright Bill to the Copeland Bill.)

* First General Session, A. PH. A., Miami, Fla., 1931.

Colonel Tuttle: "We prefer the Wainwright Bill because it will give us a more elastic and on the whole much better organization. For example, under the Copeland Bill, a pharmacist could go no farther than the grade of Major, whereas under the Wainwright Bill this limitation is not placed on his advancement. Personally, I think that restriction in grade is a great mistake. I do not want to see the type of pharmacist we are going to get remain only a pharmacist throughout his entire career in the Army. I want to see him, after requisite years of service and training reach the grade of colonel in the Medical Department and take over broader responsibilities and duties not directly connected with Pharmacy. This is one of the many reasons why we object to a separate pharmacy corps and prefer the Wainwright Bill, which will absorb pharmacists in the proposed Medical Auxiliary Corps. In his letter to your committee General Ireland, the retiring Surgeon General, went into detail on this subject and pointed out many other objections to the Copeland Bill. We want to have a group of pharmacists in the Army who will be outstanding representatives of your profession, men who will not have to stop at the grade of Major, men who can hold their own on a parity with other officers of the Army. Cannot a well-trained pharmacist be taught in a span of twenty-odd years all that is necessary in military specialties to fit him for the duties and responsibilities of the higher grades in the Medical Auxiliary Corps? The answer is unquestionably in the affirmative; you pharmacists in civil life should not be satisfied with any provisions tending to restrict his usefulness and rank. In my opinion your plea for a separate pharmacy corps would bring about the very things we in the Army are trying to avoid. By becoming members of the medical auxiliary corps pharmacists will enjoy many advantages which would be denied them were they members of a separate corps. I am sure that we have convinced your committeemen that our plan of organization is infinitely preferable. Our conferences have been extremely valuable in reaching an understanding and ironing out our differences. I am confident that future conferences will satisfactorily settle any differences of opinion that may still remain, for it is the earnest desire of the Surgeon General's Office to coöperate fully and frankly with your Committee, and your Committee has uniformly displayed the same commendable spirit. Such action has greatly facilitated the solution of our problem."

REMARKS OF COLONEL A. D. TUTTLE OF THE U. S. ARMY BEFORE THE HOUSE OF DELEGATES.*

"Just a few words in connection with our committee work in Washington. At the first meeting General Ireland presided. He was thoroughly familiar with all the details inaugurating the conference. At the second meeting his successor-to-be, General Patterson, was in the chair. General Patterson had just arrived from his former station in Honolulu. He told your representatives that he was for the pharmacy section of the Wainwright Bill 'in principle,' but that he would have to go into the matter more deeply and study it further before he could definitely commit himself to any line of action, especially as regards legislative approaches.

"Only a few days ago I had an opportunity to discuss the subject with him again. He told me that he had decided to put the matter of our legislative needs squarely up to the War Department, in an effort to get speedy action on a recommendation to Congress. Only when we have acquainted the Secretary of War as well as Congress with the present condition of the Medical Department and recite its needs will we have done our full duty. Both have a right to know just how matters stand. The Army needs help, not only in its Medical Department, but in other services as well. Of course there are some people who believe that the Army in these trying times of general depression, should not ask for more personnel and increase governmental expenditures. However, Congress has a right to know the facts and decide accordingly. General Patterson purposes to follow the customary channels in presenting his problem—through the Secretary of War.

"With the enactment of a Bill such as the Wainwright measure we can establish a splendid pharmaceutical service in the Army; something really worth while. It is gratifying to note that professional men in civil life are taking more interest in the welfare of their brothers in the military service and that military men are keeping in touch with what is going on in the civil profes-

* Miami Meeting, A. Ph. A.

sions. Personally, I have greatly enjoyed my association with your committeemen, and the opportunity I have had to attend this convention and explain to you our side of the question which has been engaging our serious attention."

(Here Colonel Tuttle was asked to describe the scheme of promotion proposed for pharmacists commissioned under the terms of the Wainwright Bill.)

Colonel Tuttle: "It is proposed that officers of the newly created Medical Auxiliary Corps, in which pharmacists will be commissioned, shall pass through various grades from Second Lieutenant to Colonel, inclusive. For some years past the Army energetically has been trying to effect a reasonable parity of promotion for all officers, so that officers of a given grade will be about the same age. In proposing the various lengths of service as a prerequisite of promotion in the case of the new Medical Auxiliary Corps, we are attempting to recognize that principle. For many years past, because of the rigid requirements as to experience after graduation, the average age on first commission of officers of the Medical Corps and the Dental Corps has been twenty-eight years whereas for the line of the Army and other branches it has been around twenty-four years. In view of the requirements laid down in the Wainwright bill, officers of the M. A. C., especially those to be commissioned from civil life, will fall in the twenty-four average age group. A practical example of how this promotion scheme will work out can be illustrated by taking the case of the young physician and the young pharmacist aspiring to a commission in the Army. The pharmacist enters as a Second Lieutenant at the age of twenty-four, after four years service or at the age of twenty-eight, he is commissioned a First Lieutenant. At this time, at the age of twenty-eight, the young physician is first commissioned and he is given an original appointment in the grade of First Lieutenant in recognition of this age differential. (However, the M. A. C. officer has already been in the Army four years, drawing pay and allowances, while the young physician at his own expense has been in civil life preparing himself for a commission.) These two officers are both appointed First Lieutenants at the age of twenty-eight, after three years more service or a total of seven years, the M. A. C. officer is promoted to the grade of Captain. The First Lieutenant of the Medical Corps is promoted to the grade of Captain after three years service. Both therefore reach their Captaincy at the age of thirty-one. The Captain of the Medical Corps is promoted to Major after twelve years of service and the Captain of the M. A. C. after sixteen years' service, both reaching the grade of Major at the age of forty. The same principle applies on up to promotion to the grade of Colonel. Both officers reach the grade of Colonel together at the average age of fifty-four years."

"Under this scheme of promotion you will observe that the young pharmacist will have the same opportunity to rise in the service as the young doctor, dentist, veterinarian or other professional man aspiring to an Army career."

(Here Colonel Tuttle was asked what the proposed increase in personnel for the Medical Department would cost.)

Colonel Tuttle: "I haven't the figures available but if I remember correctly it will be in the neighborhood of a million and a half annually. A good investment for the country, nevertheless."

(Here Colonel Tuttle was asked if it had been made clear just what percentage of officers in the new medical auxiliary corps would be pharmacists.)

Colonel Tuttle: "At least one-third, or under the terms of the Wainwright Bill 40 officers. Personally, I would like to see all the officers of the M. A. C. have pharmaceutical training.

"There being no further questions I would like to conclude with a word of caution as to my status at this meeting. I am not here as an officially accredited delegate from the War Department. Please bear in mind that all I have said is purely an expression of my personal opinion and viewpoint on the status of pharmacy in the Army. It happens to be a subject in which I have had a keen interest for years. While in the Surgeon General's Office it fell to my lot to draw up many of the provisions of our proposed bill. That, however—I mean the Bill—is still a proposed measure, still unfinished business. My remarks must not therefore be interpreted as committing the War Department in general, nor the Surgeon General in particular, to any definite line of action.

"I have come to you as a guest in the hope that I might be of some assistance in imparting general information concerning army organization for use in the solution of your own problem. I thank you most heartily for the hospitality you have showered upon me."

ASSOCIATION BUSINESS

AD INTERIM BUSINESS OF THE COUNCIL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1931–1932.

Office of the Secretary, 10 West Chase Street, Baltimore, Md.

LETTER NO. 2.

September 10, 1931.

To the Members of the Council:

For the benefit of new members of the Council, it is pointed out that motions made by mail in the interim between meetings of the Council require no second.

(*Motion No. 1*) *It is moved by Eberle that the minutes of the first meeting of the Council, 1931–1932, as presented in Council Letter No. 1, be approved.*

21. Resignation of Dr. Kremers. The following quotations are taken from a letter addressed to the secretary under date of August 10th:

> "I have just learned that my name has been proposed as that of one of the three candidates for the presidency. I hasten, therefore, to request you to remove my name from the ballot before it is being printed and mailed to the members for a vote.
>
> "After I had refused to allow my name to be submitted for the same office at the Indianapolis meeting, I did not suppose that I should have to decline the nomination once more. Either of the two other nominees will make a good President. While I greatly appreciate the compliment implied in the nomination and want to thank those who proposed me for the office, I must insist that my name be removed from the ballot."

(See JOURNAL, November 1924, page 1064; JOURNAL, December 1924, page 1165; and JOURNAL, November 1926, page 1028, in reference to similar requests.)

(*Motion No. 2*) *It is moved by Kelly that Dr. Kremers' resignation as a candidate for the presidency of the* A. PH. A. *be accepted and that the secretary be authorized to note the fact on the official ballot.* If there is objection, the vote will be considered as tentative.

The By-Laws of the ASSOCIATION require that the ballots be mailed within two months after the nominations. The ballots are now in type but will not be printed until the Council has voted on this motion.

22. Use of Text of National Formulary V. Professor C. W. Ballard has requested permission to use the text of the National Formulary for partial reproduction in a laboratory manual in Botany and Pharmacognosy. The request was referred to Chairman DuMez of the Committee on Publications who writes as follows:

> "I, therefore, recommend to the Council, as Chairman of the Publication Committee, that Professor Ballard be given permission to use portions of the text of the N. F. for laboratory manual in Botany and Pharmacognosy, and that the minimum fee of $5.00 be charged for this grant."

(*Motion No. 3*) *It is moved by DuMez that Professor C. W. Ballard be given permission to use the text of the N. F. V for partial reproduction in a laboratory manual in Botany and Pharmacognosy and at the usual charge of $5.00.*

23. Applicants for Membership. The following applications properly endorsed and accompanied by the first year's dues have been received:

No. 1, B. Sanchez Acosta, Carabobo y Obispo Lazott, Maracaibo, Venezuela; No. 2, Federico Blanco, Licenciado en Farmacie, P. O. Box 185, Barranquilla, Colombia; No. 3, David B. Blatt, 837 Trinity Ave., New York, N. Y.; No. 4, Virgilio de la Cruz, Farmaceutico, Farmacia Americana, Box 62, Barranquilla, Colombia; No. 5, Albert John Filer, 3185 Jefferson East, Detroit, Mich.; No. 6, Kenneth G. Foster, 14701 Tireman Ave., Detroit, Mich.; No. 7, George P. Gust, 7321 Tireman Ave., Detroit, Mich.; No. 8, Myron Hanna, 116 South Main St., Findlay, Ohio; No. 9, Paul M. Klosky, 8357 Gratiot Ave., Detroit, Mich.; No. 10, Regulo March, Farmacia Excelsior E. Morenot, Colon St. No. 42, Box 284, Maracaibo, Venezuela; No. 11, D. D. McDonough, 4927 Cadillac Ave., Detroit, Mich.; No. 12, Jaime Munoz Mestre, c/o Gulf Petroleum Co. Hospital, Maracaibo, Venezuela; No. 13, Adam Ogint, 472 Pearl St., New York, N. Y.; No. 14, Edgar D. Oslin, No. 4 Alpine Court, Little Rock, Ark.; No. 15, James W. Pemberton, 2nd & F. Str., Eureka, Calif.; No. 16, Joseph K. Poch, Jr., Argenta Drug Co., North Little Rock, Ark.; No. 17, I. W.

Runciman, 2900 Mt. Elliott St., Detroit, Mich.; No. 18, Morris Ruskin, 5354 Tireman Ave., Detroit, Mich.; No. 19, Chimanlal B. Shah, 1709 E. Fairmount Ave., Baltimore, Md.; No. 20, H. H. Stock, 8501 Puritan Ave., Detroit, Mich.; No. 21, Ivar O. Stuejord, R. F. D. No. 1, Trucksville, Pa.; No. 22, Cesar A. Toro, Box 3854, Santurce, Porto Rico; No. 23, John S. Zarzycki, 8604 Michigan Ave., Detroit, Mich.

(*Motion No. 4*) *Vote on applications for active membership in the American Pharmaceutical Association.*

24. Applicants for Membership on Account of Contributions to the Headquarters Building Fund. The following non-members of the A. PH. A. have pledged $25.00 or more to the Headquarters Building Fund and have made a cash payment of $5.00 or more. They are entitled to membership and you are requested to vote on the applications which have been properly endorsed.

H-1, Jack Bassichis, 12432 Arlington Ave., Cleveland, Ohio; H-2, Louis A. Demely, 2217 Annapolis Road, Baltimore, Md.; H-3, Jessop Duff, 1801 E. 30th St., Baltimore, Md.; H-4, David B. Getz, 4 Office St., Bel Air, Md.; H-5, David Hermon, 1600 W. Lanvale St., Baltimore, Md.; H-6, Irwin J. King, 242 So. Cleveland Ave., St. Paul, Minn.; H-7, Erhart W. Neubaum, Denison, Iowa.

(*Motion No. 5*) *Vote on applications of contributors to the Headquarters Building Fund for membership in the American Pharmaceutical Association.*

E. F. KELLY, *Secretary.*

ACKNOWLEDGMENTS FROM HONORARY MEMBERS.

Dean G. A. Burbidge, of Nova Scotia, one of the honorary members elected at the Miami meeting of the A. PH. A., is on a visit in England, hence, no reply has been received from him. Letters of acknowledgment of the other two follow:

's-Gravenhage, 3 September 1931
Schenkweg 28–4–6

Mr. E. F. Kelly, Secretary,
AMERICAN PHARMACEUTICAL ASSOCIATION.

Dear Sir:

I have received your letter of 10 August with the communication that the AMERICAN PHARMACEUTICAL ASSOCIATION has elected me as an Honorary Member of your ASSOCIATION at the annual meeting held in Miami. It is for me a great honor to receive this distinction and with much pleasure and gratitude I accept the election.

I follow with much interest the work of your ASSOCIATION and will be glad to receive from time to time your publications.

I hope that in one of the following years, perhaps in 1933, it will be possible to me to visit the United States and to attend one of your meetings.

I remain dear Sir with kind regards,

Yours faithfully,
(Signed) J. J. HOFMAN.

Edinburgh, August 26, 1931

Mr. E. F. Kelly, Secretary,
AMERICAN PHARMACEUTICAL ASSOCIATION.

Dear Mr. Kelly,

I have the honour to acknowledge your valued letter of 10th August, and to thank you for your intimation of my election to Honorary Membership of the AMERICAN PHARMACEUTICAL ASSOCIATION.

This I esteem very highly and I can assure you that it will always be a pleasure and privilege to do any little service I can to further the interests of your ASSOCIATION and of its members.

I received great kindness at the hands of Professor Remington, among others, on my two visits to the United States. Professor Arny has kindly written recently to say that he remembers me. It will be my ambition to again meet some of your leaders in American pharmacy and your colleagues or your Executive at Baltimore, to whom I would also wish to convey my thanks. I remember your city well.

Ever very faithfully,
WILLIAM MAIR.

THIS ISSUE OF THE JOURNAL.

This issue of the JOURNAL contains much of interest to every pharmacist; the minutes of the General Sessions, A. PH. A. and of the House of Delegates contain reports on many subjects. "Professional Pharmacy," "Historical Pharmacy," "Pharmacy Corps," "Drug Store Survey," "Prescription Data," "Headquarters Progress," "Business Management"—turn the pages, and note the items of interest and then read the articles carefully. The pages of reading matter and reports referred to has made it necessary to cut down the pages of other news items in this issue; have you read the addresses published in the August JOURNAL?

THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS.

The National Association of Retail Druggists will convene at Detroit for its 33rd annual meeting, with headquarters at the Book-Cadillac Hotel. The R. R. rates are on the basis of $1^1/_2$ fare, and it is expected that there will be a large attendance, for Detroit offers much of interest, being the home of several large pharmaceutical manufacturing establishments.

The program has much of interest; the Convention Committees have been well organized under the chairmanships of well and favorably known pharmacists. An announcement states that the beautiful Fountain room of Detroit's $9,000,000 Masonic Temple will be the scene of the "Parke-Davis Pharmaceutical Phrolic" on Tuesday night of convention week, incorporating in its plans some unique features for that evening. There will be "A Trip to Cinchona Land," and then we think everyone will enjoy "Pa Huang in search for Ma Huang."

The N. A. R. D. exhibit will be held in the Italian garden of the Book-Cadillac, perhaps the most novel and interesting room in this most interesting hotel. This room resembles a garden transported from some villa of sunny Italy. The ceiling is constructed of an unusual type of glass, which, when illuminated from above, gives the nearest possible approach to daylight. This ceiling can also be made to simulate the blue Italian sky with soft floating clouds and bright sun, or quiet twilight with settling darkness as the moon and stars become visible overhead. Storms can be had, sunsets and sunrises can be conjured up at will.

FEDERAL WHOLESALE DRUGGISTS' ASSOCIATION.

The 1931 meeting of the Federal & Wholesale Druggists' Association was held in Toronto, September 1st–3rd, with President J. H. Marshall, presiding. There were 115 delegates in attendance. Following the address of welcome from representatives of the host city, greetings were extended by various drug and pharmaceutical organizations.

President Marshall reviewed conditions in the drug trade and denounced certain tendencies and practices; he said in part: "Among the problems we are forced to face is that of the development of a number of chain stores into one larger chain, all of whom will be under the direct control of an organization that already controls a larger number of wholesale outlets than any other one organization in the country. It is not an altogether hard matter to draw conclusions as to what this means in the final analysis. There are those ambitious enough to control not only manufacturing outlets, wholesale outlets, but retail outlets as well, and there is very little question but that far-sighted men are looking forward to the accomplishment of this end."

Secretary Lee Williamson reported that he had discussed with Frank Blair, president of the Proprietary Association of the United States, the question of free goods and that he expressed a willingness to bring to the attention of members of his association the suggestion of the association that the type of the free goods deal be made standard and the compensation to the wholesaler for handling these goods likewise.

Secretary Lee Williamson had been in correspondence with the Federal Trade Commission concerning the alleged discrimination of certain manufacturers who do not give members of the association the same price they give other wholesalers; he reported that he had been unable to get from the commission any information indicating progress in these matters.

President Cloughly and Secretary Williamson spoke on the arrangements for Pharmacy Week.

Twelve resolutions were adopted, among them, ratification of a resolution in regard to the method of handling manufacturers free goods deals, disfavoring deep-cut prices, publicity for Pharmacy Week, opposition to combination deals, favoring closer relations with the N. W. D. A., commending the work of the California Retail Druggists' Association, interest and support of St. Louis Drug Store Survey, giving support to A. PH. A. Resolution No. 16.

The following officers were elected for the ensuing year: *President*, O. J. Cloughly, St. Louis; *Vice-President*, W. W. Stephens, Toronto; *Treasurer*, J. H. Marshall, Minneapolis; *Secretary*, R. E. Lee Williamson, Baltimore; *Executive Committee*, J. J. Dreyer, Newark; G. A. Raab, Providence; F. W. Alexander, Boston; O. W. Osterlund, Philadelphia. Washington, D. C., was selected for the next meeting.

AMERICAN DENTAL ASSOCIATION.

The 73rd annual meeting of the American Dental Association will be held in Memphis, October 19th–23rd. An elaborate program has been prepared.

CANADIAN PHARMACEUTICAL ASSOCIATION.

The 19th annual convention of the Canadian Pharmaceutical Association was held at the Garry Hotel, Winnipeg, August 4th to 7th. Editor R. B. J. Stanbury writes that "it must have been an inspiring moment for the Winnipeg Convention Committee when they saw such a large gathering at the formal reception tendered the delegates of the Canadian Pharmaceutical Association, at their first session on Tuesday morning, August 4th. On the platform were seated His Honor James D. McGregor, Lieutenant Governor of Manitoba; Mayor Ralph Webb; Leslie G. Henderson, President of the C. Ph. A.; S. R. Balcom, Vice-President; H. D Campbell, President Manitoba Association; Rev. P. T. Pilkey, M.A.; F. S. Mearns, K.C., Solicitor; and Dr. R. B. J. Stanbury, Secretary."

Optimism was the keynote of the presidential address of President Leslie G. Henderson:

"While business conditions are unsettled," he said, "we are no worse off in Canada than in other parts of the world. I don't think we are as badly off as are many places.

"The drug business has, I think, been less affected than many other lines of trade. We have weathered the storm more successfully than most other businesses. I am not going to try to give a remedy for the depression; it would be ridiculous for me to do so. But I think that, so far as we druggists are concerned, if we attend strictly to our own business, and keep our stores bright, and are bright and optimistic ourselves, we will find that those druggists who do this will be in the best position when the depression begins to lift."

Among the visitors from the United States were, Mr. and Mrs. W. Bruce Philip, of San Francisco; J. J. Nichols, New York, N. Y.; Dean Frederick J. Wulling, Minneapolis; Carl Weeks, Des Moines. All of the visitors were on the program of the convention. Resolutions of sympathy were addressed to the widow of Dr. Robert J. Ruth.

One of those greatly missed at the Convention was Dean G. A. Burbidge, of Halifax, one of the founders of the Canadian Pharmaceutical Association, and Chairman of the Council for many years. Dean Burbidge and Mrs. Burbidge decided this year to make a visit to the Old Country, a trip they had contemplated for some time.

The officers for the ensuing year are: *Honorary Presidents:* Leslie G. Henderson, Vancouver, B.C.; H. D. Campbell, Winnipeg; Harry Brodie, Moose Jaw, Sask.; E. Clinton Brown, St. John, N.B.

President: G. A. Burbidge, Halifax, N.S. *Vice-President:* A. F. Larose, Montreal, Que. *Chairman of Council:* A. J. Wilkinson, Windsor, Ont. *Solicitor:* F. S. Mearns, K.C., Toronto. *Secretary-Editor:* R. B. J. Stanbury, Toronto.

ARKANSAS GOLDEN ANNIVERSARY.

The Golden Jubilee celebration of the Arkansas Pharmaceutical Association will be held in Hot Springs early in June of 1932. Plans under way are for the greatest meeting ever held by Arkansas druggists. Secretary Manager Ed Oslin is in charge of general arrangements. The Fiftieth Anniversary Souvenir Program will give the history of the Association from its early romantic days down to the present and, as far as possible pictures of the members of the Association will be included.

The convention will be in session for four days, and its program provides for outstanding men in American pharmacy. Martin E. Eisele, veteran Arkansas druggist, will be the local chairman; he is famous for his ability to promote convention enthusiasm.

PURPOSES OF ILLINOIS PHARMACEUTICAL ASSOCIATION.

The objects of the Illinois Pharmaceutical Association are embodied in the following message:

To advance the science and art of Pharmacy; to protect the public against the sale or use of inferior or adulterated drugs and the ignorance of incompetent compounding of drugs and medicines, and to improve the condition of pharmacists: By restricting pharmaceutical practice to qualified persons; demonstrating to physicians and to the public the value of the pharmacist's services; promoting relations of mutual respect between pharmacists and physicians; coöperating in the regulation of the sale and use of dangerous or habit-forming drugs; furthering the commercial abilities of pharmacists through the exploitation of new ideas; uniting with other pharmaceutical organizations in efforts for the betterment of pharmacy.

OHIO STATE PHARMACEUTICAL ASSOCIATION.

Secretary Theodore D. Wetterstroem advises that the 1932 meeting of Ohio State Pharmaceutical Association will be held at Cedar Point

during the third week of July 1932; there will be no mid-year convention in 1932. The annual drug show in conjunction with the Columbus Retail Druggists' Association will be held at the Southern Hotel, October 28th and 29th. The Council of the O. S. P. A. and the Board of Pharmacy will meet on the latter date.

The 1933 meeting of the Ohio association will be held on board of a lake steamer from Cleveland to Chicago, the latter part of June.

The officers of the Association are listed in the roster, they are: *President*, John W. Darr, Girard; *First Vice-President*, A. B. Ejbl, Cleveland; *Second Vice-President*, Charles Ehlers, Cincinnati; *Treasurer*, L. W. Funk, Columbus; *Secretary*, Theodore D. Wetterstroem, 314 Schultz Bldg., Columbus.

The members of the Council are: *Chairman*, William E. Ludwig, Toledo; John S. Rutledge, Akron; Otto Moosbrugger, Dayton; Otto Kistner, Cincinnati; Ralph Benedum, East Liverpool.

The Ohio Association supplies display material, copies of codes of ethics, etc., to its members.

PERSONAL AND NEWS ITEMS.

Otto Raubenheimer, pharmacist, has returned from the "Land of Evangeline," where he has found historical material relating to Louis Hébert, pioneer Canadian pharmacist.

Mr. and Mrs Harry Noonan celebrated their silver wedding anniversary this month.

Mr. and Mrs. Edward S. Dawson celebrated their 47th wedding anniversary. Mr. Dawson has been secretary of New York Pharmaceutical Association for many years.

Editor Ivor Griffith was reëlected president of St. David's Society, composed of natives of Wales.

Editor Arthur E. Ormes, *C. R. D. A. News*, who has been seriously ill for several weeks, is recovering.

Dr. J. J. Durrett, who delivered one of the addresses at the Miami meeting, has resigned as Chief of Drug Control, Federal Food and Drug Administration, and formed connection with E. R. Squibb & Son. **Dr. Frederick J. Cullen,** Chief Medical Officer of the Administration, has succeeded Dr. Durrett; both of these officials are graduates in pharmacy and also in medicine.

William H. Glover, president of the Massachusetts College of Pharmacy, accompanied by Mrs. Glover, has returned from an extended European trip.

Charles H. LaWall has been appointed member of the International Committee for Assaying Opium, representing the United States.

Harold W. Werner, of Wisconsin, has been elected member of the pharmacy faculty of Duquesne University.

Editor Hugo Kantrowitz is arranging an European tour for pharmacists to sail June 15, 1932, returning in time for members to attend the A. PH. A. meeting in Toronto.

Walter H. Cousins prepared a book of range rhymes for the recent reunion of Texas cowboys. In his early years Mr. Cousins was a rancher.

Mrs. Millicent R. LaWall is the president of the Alumni Association of the Philadelphia College of Pharmacy and Science. **Benjamin T. Fairchild** has been elected Honorary President of the year and **Dr. H. C. Wood, Jr.,** and **Dr. George D. Rosengarten** were elected honorary members.

The *N. A. R. D. Journal*, of September 10th, contains a comprehensive report of the A. PH. A. meeting in Miami.

The *Apotheker-Zeitung*, New York, devoted several pages to the proceedings in Miami, acquainting its readers here and abroad with the transactions of the convention.

The Practical Druggist contains an interesting article by Gerald Griffin on the American Institute of Pharmacy.

The American Druggist, for September, gives an interesting historical account of the S. A. D. Sheppard Pharmacy. The founder was for many years treasurer of the AMERICAN PHARMACEUTICAL ASSOCIATION.

The Druggists Circular is preparing to celebrate its Diamond anniversary with an historical number.

The Pacific Drug Review is continuing its study of prescription pricing.

The Texas Druggist, for September, contains an interesting illustrated article by Dean W. F. Gidley, with an introductory by Walter D. Adams, president of the A. PH. A. This issue also carries the proceedings of the annual convention of Texas Pharmaceutical Association.

Drug Markets published abstracts of many of the A. PH. A. papers, presented to the sections at the Miami meeting.

The Modern Hospital, for September, has an illustrated supplement of the hospitals of Western Reserve University.

OBITUARY.

JOHN H. COLEMAN.

John H. Coleman, member of the AMERICAN PHARMACEUTICAL ASSOCIATION, and for a number of years associated with Roeber & Kuebler, Newark, N. J., as laboratory pharmacist, died on August 6th.

The deceased was born at Ironia, N. J., August 21, 1854. He received his earlier education at Mendham, N. J., and, later, studied medicine at Bellevue Medical College, but illness prevented the completion of his medical studies. Several years later he became associated with Dr. Mercer, of Newark, as pharmacist, and, in 1885, engaged in the drug business on his own account. Poor health caused him to retire in 1906, but, in 1919, he reëngaged in pharmacy as laboratory pharmacist in the wholesale and manufacturing house above mentioned.

Mr. Coleman was known for his quiet and sincere enthusiasm for his profession. He is survived by his widow.

ARISTIDES AGRAMONTE.

Aristides Agramonte, for thirty years professor of bacteriology and experimental pathology at the University of Havana Faculty of Medicine and Pharmacy, died in New Orleans, August 18th, of heart disease and bronchitis, aged 63. Dr. Agramonte was born in Cuba in 1868. His family emigrated to New York, where he attended the public schools and graduated from New York University, in 1886, and from the College of Physicians and Surgeons of Columbia University in 1892. He entered the medical corps of the U. S Army in 1898, and, in 1900, along with Walter Reed, James Carroll and Jesse Lazear, was appointed a member of the U. S. Army board investigation of the cause of yellow fever, which board eventually proved for the first time that yellow fever was transmitted to man by the bite of the mosquito *Stegomyia fasciata*. Dr. Agramonte's chief part in this investigation was to perform the necropsies and the gross pathologic work, and for this the United States Congress, in 1929, granted him a Congressional Medal and a pension. Recently Dr. Agramonte was called to New Orleans to organize a department of tropical diseases in the new medical school of Louisiana State University.

WALTER E. DIXON.

Walter Ernest Dixon, M.A. (*Honoris Causa*), Cantab., M. D., F. R. S. honorary member of the Pharmaceutical Society of Great Britain since 1911, and member of the Editorial Committee of the Quarterly *Journal of Pharmacy and Pharmacology*, died August 16th. He was past-president (therapeutics) of the Royal Society of Medicine and the British Medical Association, and past-president (physiology) of the British Association During the War he served in the Royal Navy, and was a member of the Government Committees on food preservatives, drug addiction and ethyl petrol, and also on the League of Nations Expert Committee on drug addiction. He was the author of a standard "Manual of Pharmacology," now in its sixth edition, of a treatise on "Practical Pharmacology," and of monographs on pharmacological subjects in Clifford Allbutt's monumental work on "Medicine;" in Hale White's "Pharmacology;" Langdon Brown's "Pharmacology;" Hefter's "Pharmacology," and other publications, notably "The British Pharmaceutical Codex," to the three editions of which he contributed or revised the text of the "Action and Uses," sections of the monographs on drugs, for which he did an immense amount of work.

In the London *Times* of August 18th, memorial tributes appeared from Sir Humphrey Rolleston and Dr. Alfred Cox, medical secretary of the British Medical Association. Having referred to some of Dixon's more notable services to pharmacology, Sir Humphrey Rolleston adds: "As a remarkably attractive lecturer, and especially as an inspiration to those undertaking original investigation, he built up a school of pharmacology at Cambridge and set an example of high ideals in this service." Dr. Cox writes: "There must be few men who have so successfully combined scientific scepticism with the enthusiasm, friendliness, and joyousness which characterized all he did."—Abstracted from the *Journal & Pharmacist*.